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STUDIES OF CENTRAL AMERICAN PLANTS—VI

BY

PAUL C. STANDLEY

CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

AND

JULIAN A. STEYERMARK

ASSISTANT CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

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STUDIES OF CENTRAL AMERICAN PLANTS—VI

PAUL C. STANDLEY AND JULIAN A. STEYERMARK

In this brief paper there are described new species of plants from Guatemala, preparatory to publication of a flora of that country. A large proportion of the new species belong to the genus *Eupatorium*, which is represented more lavishly in Guatemala than in any other region of Central America.

MORACEAE

Cecropia sylvicola Standl. & Steyerm., sp. nov.—Arbor procera sylvicola superne copiose ramosa; folia magna firme coriacea, longipetiolata, petiolo tereti multicostulato usque 54 cm. longo et paullo ultra 1 cm. basi crasso densiuscule hirtello, nullo modo tomentoso; lamina magna suborbicularis breviter peltata, profunde vulgo fere ad basin ca. 9-partita, supra scabro-asperata, subtus pallidior ad nervos venasque hirtella vel hispidula, in statu adulto glabrata sed inter venulas prominulas atque arcte reticulatas minutissime tomentulosa, viridescens et in sicco brunnescens, segmentis oblongis vel obovato-oblongis usque 40 cm. longis et 11 cm. latis integris apice obtusissimis, saepe plus minusve plicatis; inflorescentia feminea crasse 3.5–6 cm. longe pedunculata, spicis numerosis congestis fere 1 cm. longe pedicellatis, 5–5.5 cm. longis 5–6 mm. crassis apice rotundatis.—Guatemala: Dept. Alta Verapaz: Dense wet mixed forest, mountains along the road between Tactic and the divide on the road to Tamahú, alt. 1,500–1,600 meters, April, 1941, *Paul C. Standley* 90762 (type in Herb. Field Mus.); also no. 90576, with the same data; same locality, April 9, 1939, *Standley* 71248.

This exceptionally distinct species, known only from imperfect material, has been found only in the botanically rich, usually very wet forest at this one locality in Alta Verapaz, where it grows in the midst of virgin forest. The trees are fairly plentiful, but all observed were so tall that it was impossible to reach the branches by ordinary means, and all the available material consists of dried leaves and more or less broken inflorescences found on the ground. From the two other Guatemalan species, as well as from most others found in Central America, *C. sylvicola* differs in its almost concolorous leaf surfaces and deeply lobate, coriaceous leaf blades.

Pseudolmedia simiarum Standl. & Steyerm., sp. nov.—Arbor excelsa usque ad 30 m. alta, trunco interdum 60 cm. vel ultra diam., ramulis crassis plus minusve flexuosis dense pilis longis mollibus patentibus fulvidis hirsutis; stipulae caducae usque 2.5 cm. longae angustae sat dense hirsutae; folia breviter petiolata magna chartacea, petiolo crasso 7–10 mm. longo hirsuto; lamina oblongo-elliptica 18–27 cm. longa 7.5–13 cm. lata apice abrupte breviter caudato-acuminata, basi oblique rotundata, supra viridis praeter costam nervosque puberulos vel hirtellos fere omnino glabra, subtus pallidior brunnescens ubique sat dense molliterque pilis longiusculis patentibus pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 17 gracillimis elevatis arcuatis prope marginem arcuato-conjunctis, venulis prominentibus laxe reticulatis; inflorescentiae femineae axillares 1-florae ut videtur sessiles; fructus immaturus globosus vel ovali-globosus 2–2.5 cm. longus sessilis basi et apice rotundatus ubique densissime molliter pilis subpatentibus fulvidis velutino-pilosus; bracteae longe persistentes rotundo-ovatae obtusae 5–6 mm. longae utrinque dense sericeo-pilosae.—Guatemala: Dept. Huehuetenango: In dense rich wet forest in a deep ravine, alt. 1,500 meters, vicinity of Maxbal, about seventeen miles north of Barillas, July 15–16, 1942, *Julian A. Steyermark* 48741 (type in Herb. Field Mus.). Between Maxbal and Xoxlac, Huehuetenango, July 17, 1942, *Steyermark* 38983 (sterile).

The bark, when cut, exudes a cream-colored milk-like sap. The vernacular name of "Durazno de mono" ("monkey-peach") alludes to the fact that the fruits resemble immature peaches, their dense pubescence being much like the "fuzz" found on a peach. When the senior author was at Huehuetenango in 1940 a woman who kept a small shop showed him a large sack filled with dried fruits of *durazno de monte,* as she called them, which she had secured, she said, for a "North American agriculturist" who wished to investigate this wild peach. He had never returned for the fruits, which she had been at some trouble to get for him. It is safe to say that he would have been very much disgusted at what he found, if he had sufficient knowledge to realize how little resemblance the fruits actually had to true peaches.

LORANTHACEAE

Struthanthus oliganthus Standl. & Steyerm., sp. nov.—Frutex parasiticus glaber ramosus, ut videtur erectus, ramis crassis teretibus, vetustioribus fuscis, novellis ochraceis vel fere cinnamo-

meis, internodiis plerumque brevibus; folia coriacea parva in sicco lutescentia breviter crasseque petiolata obovato-oblonga vel late cuneato-oblonga ca. 2.5 cm. longa, 9–14 mm. lata, apice rotundata, basin versus sensim cuneato-angustata et fere ad basin petioli decurrentia, penninervia sed nervis primariis fere obsoletis; inflorescentiae axillares parvae crasse vix ultra 3 mm. longe pedunculatae, 3-florae, floribus viridescentibus arcte sessilibus; calyx glaber brevis 1.2 mm. latus; corolla in alabastro clavato-cylindracea 3.5 mm. longa.—Guatemala: Dept. Huehuetenango: Above San Ildefonso Ixtahuacán, alt. 1,600–1,700 meters, August 15, 1942, *Julian A. Steyermark* 50672 (type in Herb. Field Mus.). Northwest of Cuilco, two-thirds the way up Cerro Chiquihui, above Carrizal, 1,350–2,300 meters, August 17, 1942, *Steyermark* 50824.

Related to *S. cassythoides* Millsp., a common species of Guatemala, but in that all or most of the inflorescences have much more numerous flowers and the stems are usually long, slender, flexuous, and more or less twining or even scandent.

Struthanthus tenuifolius Standl. & Steyerm., sp. nov.—Frutex parasiticus dependens elongatus glaber, laxe ramosus, ramis gracilibus teretibus ut videtur radices non emittentibus, internodiis brevibus vel elongatis; folia coriacea graciliter ca. 4 mm. longe petiolata lineari-lanceolata 3.5–6.5 cm. longa 3–5 mm. lata, apicem acutum vel subacuminatum versus sensim attenuata, basin versus longe sensim attenuata, 1-nervia; inflorescentiae axillares et terminales sublaxae ca. 2 cm. longae et aequilatae pauciflorae subcymosae, floribus ternatis crasse 2–3 mm. longe pedicellatis; calyx brevis truncatus paullo ultra 1 mm. latus; corollae non visae.—Guatemala: Dept. Huehuetenango: Ciénaga de Lagartero, below Miramar, alt. 300 meters, parasitic on *Taxodium mucronatum*, August 29, 1942, *Julian A. Steyermark* 51538 (type in Herb. Field Mus.).

The species is noteworthy for its very long and narrow, slender leaves and for the slender-pedicellate flowers.

ARISTOLOCHIACEAE

Aristolochia mollis Standl. & Steyerm., sp. nov.—Frutex scandens, ramis crassis densissime pilis brunnescentibus piloso-tomentosis, internodiis breviusculis; folia majuscula breviter petiolata crasse membranacea vel chartacea, petiolo crasso 6–8 mm. longo dense piloso-tomentoso; lamina ovalis vel ovali-elliptica 13–18 cm. longa 6–10 cm. lata, apice rotundata vel obtusissima et interdum

apiculata, basi anguste rotundata, basi ipsa interdum emarginata, integra, supra ubique dense piloso-hirsuta, nervis venisque prominulis laxe reticulatis, subtus paullo pallidior densissime velutino-pilosa, pilis patentibus pallide brunnescentibus, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 7, venis prominentibus laxiuscule reticulatis; pedunculi axillares ut videtur 1-flori ca. 7 mm. longi; perianthium brunneo-purpureum intus glabrum extus dense breviter pilosum, parte basali utriculiformi 2.5 cm. longa, tubo brevissimo subito reflexo, limbo late rotundato-ovato 3.5 cm. longo integro apice rotundato; capsula juvenilis ca. 1 cm. longe crasseque pedicellata clavato-oblonga 2.5 cm. longa 5–7 mm. apicem versus crassa apice rotundata densissime pilis brunnescentibus adscendentibus pilosa.—Guatemala: Dept. Huehuetenango: Canyon tributary to Río Trapichillo, between Democracia and canyon of Chamushú, alt. about 1,000 meters, August 24, 1942, *Julian A. Steyermark* 51269 (type in Herb. Field Mus.).

Local name "Hoja del aire." In general appearance the plant resembles *A. asclepiadifolia* Brandegee of Veracruz, but in that the leaves are sessile and deeply cordate at the base.

MENISPERMACEAE

Abuta Steyermarkii Standl., comb. nov. *Hyperbaena Steyermarkii* Standl. Bot. Ser. Field Mus. 22: 232. 1940.—The genus *Abuta* has not been recorded previously from North America, all the other species being South American. The present Guatemalan plant is related to *A. rufescens* Aubl., of the Guianas and Brazil, but is evidently distinct in its sessile rather than long-pedicellate pistillate flowers. In foliage the two species are almost exactly alike.

ANNONACEAE

Desmopsis guatemalensis Standl. & Steyerm., sp. nov.—Frutex 4–6-metralis, ramulis breviter denseque hispidulis vel pilosulis; folia inter minora breviter petiolata membranacea plus minusve lucida, petiolo 2–4.5 mm. longo dense brunnescenti-hirtello; lamina lanceolato-oblonga 4–6 cm. longa 1.2–1.8 cm. lata, apicem obtusum versus sensim attenuata, basi subacuta, utrinque sed subtus manifestius punctata, supra glabra vel tantum ad costam puberula, subtus fere concolor, primo adpresso-pilosa in statu adulto tantum ad costam adpresso-pilosa, costa gracili elevata, nervis lateralibus utroque latere 11–13; flores oppositifolii, pedunculo gracili 2 cm. longo, in statu fructifero usque ad 2.5 cm. longo, adpresso-piloso, 2-brac-

teato, bracteis 1.5–2 mm. longis; sepala ovata subacuta 2.5–4 mm. longa extus sericea intus glabra; petala carnoso-subcoriacea lutescentia lineari-lanceolata apicem versus sensim attenuata 20 mm. longa 1.5–3 mm. lata, extus sparse pilosula, intus glabra vel glabrata; antherae 1.5 mm. longae; baccae 8–9 mm. longe stipitatae globosae rubrae 12–15 mm. longae 10 mm. latae glabrae vel glabratae; semina subglobosa brunnea.—Guatemala: Dept. Quezaltenango: Montaña Chicharro, lower southeastern slopes of Volcán de Santa María, alt. about 1,500 meters, January 17, 1940, *Julian A. Steyermark* 34304 (type in Herb. Field Mus.). Dept. San Marcos: Above Finca El Porvenir, Loma Bandera Shac, southern slopes of Volcán de Tajumulco, 1,300–1,500 meters, March 9, 1940, *Steyermark* 37331.

Related to the Mexican *D. lanceolata* Lundell and *D. bibracteata* (Robinson) Safford but differing from both in its narrow petals and much smaller and narrower leaves.

Desmopsis izabalensis Standl. & Steyerm., sp. nov.—Arbor 6-metralis, ramulis densissime pilis patentibus brunnescentibus vel sordidis hispidulis; folia inter minora breviter petiolata firme membranacea plus minusve lucida, petiolo crassiusculo ca. 3 mm. longo dense hispidulo; lamina anguste oblongo-lanceolata 6–9.5 cm. longa 1.5–2.5 cm. lata apicem subacutum versus sensim longissime attenuata, basi obtusa vel subacuta, epunctata, supra tantum ad costam subimpressam breviter hispidula, aliter glabra, subtus fere glabra sed in statu adulto ad costam sparse adpresso-pilosa; flores oppositifolii ut videtur penduli, pedunculo gracillimo in statu fructifero ca. 3 cm. longo sparse hispidulo vel fere glabro, bracteis non visis; baccae 5–6 mm. longe stipitatae globosae ca. 9 mm. diam. basi et apice rotundatae glabratae sed ut videtur in statu juvenili sparse adpresso-pilosae.—Guatemala: Dept. Izabal: On ridge top, along Río Frío, Cerro San Gil, alt. 75–150 meters, December 18, 1941, *Julian A. Steyermark* 41543 (type in Herb. Field Mus.).

In general appearance this is much like the preceding but the leaves are somewhat longer and narrower and not obviously punctate, while in *D. guatemalensis* they are very conspicuously punctate at all stages of development. The type material bears no flowers, which are likely to provide supporting characters.

CRUCIFERAE

Cardamine balnearia Standl. & Steyerm., sp. nov.—Herba erecta perennis ca. 35 cm. alta omnino glabra, radice perpendiculari

radices numerosas fibrosas emittente; caulis simplex inferne nudus, superne densissime foliatus; folia numerosissima longipetiolata laete viridia ca. 14–15 cm. longa, petiolo gracili basi nudo sed plus minusve dilatato et subamplexicauli; foliola 9–13 alterna vel opposita tenuiter membranacea saepe remota 4–6 mm. longe petiolulata late ovata usque ovato-oblonga vel lanceolato-oblonga 1–3 cm. longa 4–12 mm. lata, subacuta usque obtusissima, basi rotundata usque subacuta atque saepe obliqua, remote paucidentata vel brevissime remote lobulata, dentibus spinuloso-apiculatis, foliolo terminali vulgo paullo lateralibus majore; racemi terminales simplices vel e basi pauciramosi basi tantum foliaceo-bracteati vel nudi ca. 14 cm. longi laxe multiflori, pedicellis gracillimis 7–12 mm. longis adscendentibus; flores ca. 6 mm. longi, sepalis purpurascentibus ovalibus fere 3 mm. longis apice rotundatis; petala alba purpureo tincta obovata; siliquae immaturae 3.5 cm. longae 0.8 mm. crassae, stylo 3 mm. longo vix superne angustato; ovula numerosa.—Guatemala: Dept. Quezaltenango: Wet mossy bank, Aguas Amargas, western slope of Volcán de Zunil, alt. about 2,450 meters, January 14, 1941, *Paul C. Standley* 83332 (type in Herb. Field Mus.).

This plant probably is rare, since although the senior author has visited the type locality several times, he has found it but once. It is an exceptionally distinct species, doubtless related to *C. fulcrata* Greene and *C. innovans* O. E. Schulz, but differing from both in its numerous rather than usually three leaflets.

CAPPARIDACEAE

Capparis calciphila Standl. & Steyerm., sp. nov.—Arbor 12-metralis, ramis crassis brunneis densissime lepidotis, internodiis brevibus; folia firme coriacea crasse petiolata, petiolo 1.5–2.5 cm. vel interdum usque 4 cm. longo dense lepidoto; lamina elliptica vel saepius obovato-elliptica 8.5–13 cm. longa 4.5–6.5 cm. lata apice rotundata vel obtusissima et apiculata, basi obtusa vel late cuneato-obtusa, supra glabra lucida, nervis venisque prominulis laxe reticulatis, subtus lutescenti-brunnescens sat dense lepidota non pilosula, costa gracili maxime elevata, nervis venisque prominentibus atque laxe reticulatis; inflorescentiae axillares cymosae pauciflorae, pedunculis usque ad 9 cm. longis, pedicellis crassiusculis 8–14 mm. longis densissime brunneo-lepidotis; calyx ca. 3.5 mm. longus densissime brunneo-lepidotus fere ad basin lobatus, lobis in alabastro apertis anguste triangularibus acutis adpressis; petala intus alba extus densissime stellato-tomentosa 1 cm. longa vel ultra (in alabastro tantum visa);

stamina numerosa.—Guatemala: Dept. Alta Verapaz: Along knife-edge of a limestone ridge, Cerro Chinajá, between Finca Yalpemech and Chinajá, above source of Río San Diego, alt. 150–700 meters, April 1–2, 1942, *Julian A. Steyermark* 45616 (type in Herb. Field Mus.).

Here probably belongs *W. A. Schipp* S-655 from Jacinto Hills, British Honduras, distributed under a provisional name given it by the senior author, but never published because flowers were lacking. A sterile specimen from Lago de Amatitlán, Guatemala, also may be referable here. The proposed species is related to *C. indica* (L.) Fawc. & Rendle, which grows in various parts of Guatemala, chiefly in dry situations, but that has much shorter petioles, seldom more than 1 cm. long, and much smaller and relatively narrower leaves.

CRASSULACEAE

Echeveria macrantha Standl. & Steyerm., sp. nov.—Herba erecta sparse ramosa, plus minusve suffrutescens, ramis usque 1 cm. crassis ochraceis apice tantum foliatis; folia ad apices ramorum dense rosulata sessilia rotundo-cuneata ca. 3 cm. longa atque 2–2.8 cm. lata, apice late rotundata vel subtruncata et brevissime apiculata, basi latissime cuneata, crassa carnosa utrinque copiose sed non dense hirtella in vivo pallide lutescenti-viridia roseo-marginata; pedunculus crassus 4.5 cm. longus ca. 3-florus, pedicellis in statu fructifero 8 mm. longis dense hirtellis; sepala fere libera 8 mm. longa lanceolato-oblonga apicem obtusum versus sensim angustata dense hirtella; corolla in statu fructifero persistens extus sat dense pubescens, segmentis fere liberis ca. 2 cm. longis anguste lanceolatis apicem versus sensim attenuatis dorso acute carinatis; follicula ca. 15 mm. longa sparse pubescentia brunnea, corpore lanceolato-oblongo ca. 8 mm. longo in rostrum gracile aequilongum sensim attenuato.—Guatemala: Dept. Jalapa: Dry rocky slopes, Montaña Miramundo at Buena Vista, alt. 2,000–2,200 meters, December 6, 1939, *Julian A. Steyermark* 32808 (type in Herb. Field Mus.).

This is the only known Central American species with pubescent foliage, the other species of the group being Mexican. Most of the Mexican ones have much more abundant pubescence than the Guatemalan plant, which differs from each of them also in some other respect. It is noteworthy for its remarkably large flowers.

Echeveria huehueteca Standl. & Steyerm., sp. nov.—Planta acaulis glabra, radicibus carnoso-fibrosis; folia numerosa dense

rosulata sessilia oblongo-lanceolata usque subelliptica vel late cuneato-obovato-oblonga, 2–5 cm. longa, 1–2.5 cm. lata, apice subacuminata usque obtusa vel subrotundata et cuspidato-apiculata, basi latissime cuneata, utrinque viridia vel interdum purpurascentia; caules erecti stricti 20–30 cm. alti simplices remote foliati, foliis valde reductis lanceolato-linearibus usque oblongo-lanceolatis usque ad 18 mm. longis acutis vel acuminatis sessilibus; flores laxe racemosi, racemo 7–13 cm. longo remote 5–11-floro, pedicellis crassis 2–3 mm. longis; sepala basi coalita valde inaequalia late linearia usque oblongo-ovata obtusa vel subacuta carnosa viridia subadpressa vel interdum plus minusve patentia 6–8 mm. longa; corolla rubra 8–10 mm. longa fere ad basin partita, lobis anguste lanceolatis suberectis apice paullo excurvis longe anguste attenuatis dorso carinatis; follicula ca. 8 mm. longa obliqua in rostrum subulatum sensim attenuata. —Guatemala: Dept. Huehuetenango: On bluffs, Cumbre Papal, on slopes with southern exposure, between Cuilco and Ixmoquí, alt. 1,400–3,000 meters, August 19, 1942, *Julian A. Steyermark* 50934 (type in Herb. Field Mus.). On limestone bluffs in ravine with *Juniperus*, alpine areas in vicinity of Tunimá, 3,400 meters, *Steyermark* 48373. Pine-forested slopes, terrestrial, along Río Selegua opposite San Sebastián Huehuetenango, 2,000 meters, *Steyermark* 50420.

Corolla vermilion-red; leaves grass-green on both sides, or sometimes dull or deep green suffused with lavender or brownish purple, not glaucous. The three collections cited show considerable variation in leaf form but it is believed that they are conspecific. In Poellnitz's key to the species of *Echeveria* they run at once to *E. sessiliflora* Rose, a species of Chiapas that might well be expected in Guatemala, but they do not agree with the original description or with the one given by Poellnitz. The inflorescence in *E. huehueteca* is not at all secund.

Echeveria Steyermarkii Standl., sp. nov.—Plantae acaules glabrae solitariae vel interdum caespitosae, radicibus fibrosis; folia vulgo numerosissima rosulata patentia vel adscendentia viridia interdum purpureo vel roseo tincta sessilia, anguste vel latissime oblongo-spathulata, 2.5–6.5 cm. longa 1–2 cm. lata, apice rotundata vel obtusissima et breviter obtuse apiculata, carnosa sed non crassa, basi latissime cuneata; scapi solitarii vel plures 5–20 cm. alti, floribus breviter racemosis vel subcorymbosis paucis, foliis caulinis interdum fere omnibus prope basin insertis, interdum fere ad apicem sparsis linearibus usque oblongis, majoribus usque 2 cm. longis obtusis adscen-

dentibus; flores 3–10 mm. longe pedicellati, pedicellis subgracilibus plerumque 8–15 mm. longis, bracteis oblongis vel fere linearibus pedicellis vulgo multo brevioribus; sepala fere ad basin libera inaequalia viridia carnosa 5–8 mm. longa oblonga vel ovato-oblonga obtusa adpressa vel subpatentia; petala basi connata rubra vel roseo-rubra 8–11 mm. longa lanceolata vel anguste lanceolata erecta sed apice paullo excurva dorso carinata, apicem versus sensim attenuato-acuminata; antherae petalis bene breviores ca. 1.5 mm. longae ovales; follicula 7–8 mm. longa suberecta longirostrata brunneo-rubra.—Guatemala: Dept. Zacapa: On rocks, between Santa Rosalía de Mármol and San Lorenzo, alt. 1,200–1,600 meters, January 24, 1942, *Julian A. Steyermark* 43145 (type in Herb. Field Mus.). Dept. Sololá: Volcán de Santa Clara, 2,000–3,000 meters, *Steyermark* 46910, 47062; sometimes epiphytic. Among rocks, Volcán de Tolimán, slopes above San Lucas, 1,800–3,000 meters, *Steyermark* 47603. Dept. San Marcos: Between Sibinal and Ichiguán, 3,500–4,000 meters, epiphytic, *Steyermark* 36507.

The plants placed here show a great deal of variation in leaf form but it is believed that all represent a single species. Further collections may possibly show that two or more species are represented but it is believed that all the apparent variations may be explained by moisture and exposure conditions. The corolla is variously described as vermilion throughout, rose-red, or with petals reddish yellow edged with vermilion. The leaves may be either grass-green throughout or sometimes paler beneath, and often tinged with red or purple. The species is noteworthy for its small, few-flowered inflorescence and very long pedicels.

LEGUMINOSAE

Bauhinia Calderonii (Rose) Standl. & Steyerm., comb. nov. *Casparea Calderonii* Rose in Britt. & Rose, N. Amer. Fl. 23: 217. 1930.

Calliandra carcerea Standl. & Steyerm., sp. nov.—Frutex vel arbuscula gracilis, ramis ochraceis subteretibus, novellis dense hirtellis; folia 10–14 mm. longe petiolata, pinnis 1-jugis 4.5–7.5 cm. longis; foliola 7–11-juga inaequalia et saepe obliqua oblongo-elliptica usque ovata 12–23 mm. longa 4–8 mm. lata obtusa vel subacuta basi obliqua obtusa vel rotundata, glabra ciliata lucidissima, subtus paullo pallidiora penninervia, nervis venisque utrinque prominulis laxe reticulatis, subcoriacea; pedunculi axillares solitarii ca. 2 cm. longi graciles hirtelli, capitulis paucifloris; bracteae ca. 2 mm. longae

lineari-lanceolatae puberulae; calyx glaber ad dentes puberulus 3 mm. longus striatus, dentibus brevissimis; corolla 7–8 mm. longa glabra, limbo dilatato, ad dentes puberula; legumen 2.5–3 cm. longe stipitatum lineare 7–7.5 cm. longum 7–8 mm. latum apice obtusum et apiculatum, basi attenuatum, glabrum.—Guatemala: Dept. El Progreso, slopes of quebradas, between Calera and middle slopes of Volcán Siglo, alt. 2,000–2,200 meters, January 20, 1942, *Julian A. Steyermark* 42985 (type in Herb. Field Mus.).

In appearance this is much like *C. purpurea* (L.) Benth. of the Lesser Antilles, but that is glabrous throughout or nearly so while *C. carcerea* has abundant pubescence on the branches, leaf rachis, and peduncles.

Galactia sparsiflora Standl. & Steyerm., sp. nov.—Perennis herbacea volubilis, caulibus gracillimis teretibus sparse strigosis vel glabratis; stipulae viridescentes subulatae erectae 2–2.5 mm. longae persistentes; folia 3-foliolata graciliter longipetiolata, rhachi 3–8 mm. longa, petiolo 1.5–4 cm. longo sparse strigoso vel glabro; foliola chartacea oblongo-lanceolata vel anguste oblonga prope vel infra medium latissima vel interdum supra medium paullo latiora, 3–6.5 cm. longa 8–15 mm. lata, acuta vel acuminata, basi obtusa vel rotundata, supra lucida viridia sparse scabro-strigosa, subtus paullo pallidiora, saepe lucida, sparse scabro-strigosa vel fere omnino glabra, venis utrinque elevatis atque arcte reticulatis; pedunculi axillares 1-flori 5–7 mm. longi; calyx sub legumine persistens 4–5 mm. longus turbinatus adpressus tenuiter strigosus ad medium 4-dentatus, dentibus tubo paullo brevioribus, dorsali ovato subobtuso integro, carinali angustiore acuminato aequilongo, 2 lateralibus brevioribus ovatis acuminatis; legumen anguste oblongum vel lineari-oblanceolatum 2.5–3 cm. longum 4–5 mm. latum, apice acutum et abrupte longirostratum, rostro dense strigoso, basin versus sensim attenuatum, elastice dehiscens sparse strigosum subseptatum; semina 2–3 subcompressa lucida late ovalia ca. 4 mm. longa brunnea nigro-maculata.—Guatemala: Dept. El Progreso: In forest east of Finca Piamonte, Sierra de las Minas, alt. 2,500 meters, February 11, 1942, *Julian A. Steyermark* 43837 (type in Herb. Field Mus.). Hills between Finca Piamonte and slopes southeast, *Steyermark* 43432. Between Calera and summit of Volcán Siglo, Sierra de las Minas, 2,000–3,300 meters, *Steyermark* 43031.

All three collections are in fruit. The plant could be referred about equally well to either *Galactia* or *Calopogonium*, but if the

usual characters for separating those groups are reliable, it is better placed in *Galactia*. It does not resemble closely any other Central American species of *Galactia*, but does somewhat suggest *Calopogonium lanceolatum* Brandeg.

Mimosa canahuensis Standl. & Steyerm., sp. nov.—Frutex scandens, ramis obtuse angulatis dense pilosulis et hispidulis, aculeis recurvis basi valde dilatatis brunnescentibus armatis; folia magna 15–20 cm. longa, rhachi dense recurvo-aculeata et sordide pubescente, pinnis 4–6-jugis 4.5–7.5 cm. longis; foliola 7–11-juga crasse membranacea ovali-oblonga vel subovalia 14–19 mm. longa 5–8 mm. lata, apice rotundata vel obtusissima, basi obliqua rotundata, supra intense viridia puberula, subtus pallidiora sat dense pilosula penninervia; pedunculi axillares monocephali crassi ca. 1.5 cm. longi puberuli superne aculeolati, floribus capitatis; legumina numerosa sessilia vel subsessilia ca. 2 cm. longa atque 8–9 mm. lata, basi et apice rotundata vel obtusa, sat dense setosa, setis pallide lutescentibus 2–3 mm. longis, marginibus incrassatis dense rigide setosis, valvulis continuis non articulatis; semina ca. 3.—Guatemala: Dept. El Progreso: Climbing in thickets, Montaña Canahui, between Finca San Miguel and summit of mountain, near upper limits of Finca Caieta, alt. 1,600–2,300 meters, February 10, 1942, *Julian A. Steyermark* 43758 (type in Herb. Field Mus.).

A well-marked species, whose affinities within the genus are uncertain. It is not closely related to any other known from Guatemala, nor does it show any close relationship with any of the species treated by Britton and Rose.

Mimosa Donnell-Smithii (Britt. & Rose) Standl. & Steyerm., comb. nov. *Neomimosa Donnell-Smithii* Britt. & Rose, N. Amer. Fl. 23: 173. 1928. Apparently a rare plant, not represented among recent collections made in Guatemala.

Pithecolobium saxosum Standl. & Steyerm., sp. nov.—Arbor ca. 5-metralis, ramulis brevibus irregularibus dense hirtellis spinis stipularibus crassis rigidis 7–10 mm. longis sat dense armatis; folia 1.5–2.5 cm. longe petiolata, petiolo gracili dense hirtello apice glandula sessili crateriformi onusto, pinnis 1-jugis; foliola 1-juga coriacea ovalia vel late oblongo-obovata 2.5–4.5 cm. longa 1.5–2.5 cm. lata, apice rotundata et saepe emarginata, basi rotundata vel late obtuse cuneata, supra vulgo lucida dense velutino-puberula, subtus sat dense velutino-pilosula, nervis venisque subtus promi-

nentibus conspicuis; flores spicati, spicis in paniculas parvas dispositis 1–2 cm. longis densis vel plus minusve inferne interruptis ca. 8 mm. latis saepe graciliter longipedunculatis, floribus arcte sessilibus; bracteae oblongo-lanceolatae persistentes vix 1 mm. longae puberulae; calyx vix ultra 1 mm. longus dense albido-puberulus; corolla ca. 3 mm. longa minute sericea; legumen ignotum.—Guatemala: Dept. Chiquimula: Edge of arroyo, Quebrada Shusho, above Chiquimula, on the road to Zacapa, alt. about 480 meters, October 14, 1940, *Paul C. Standley* 74367 (type in Herb. Field Mus.); same locality, October 9, 1940, *Standley* 73726. Dept. Zacapa: Vicinity of Zacapa, 200 meters, in brushy pasture, October, 1940, *Standley* 74195.

In its small flowers this suggests *P. microstachyum* Standl., of Guatemala and Salvador, but in that the leaves are glabrous or essentially so. The copious pubescence allies *P. saxosum* with *P. Brownii* Standl. and *P. Johanseni* Standl., both of which grow in Guatemala, but they have substantially larger flowers.

Pithecolobium Stevensonii (Standl.) Standl. & Steyerm., comb. nov. *Inga Stevensonii* Standl. Trop. Woods 23: 7. 1930.—This species has been collected several times recently in Guatemala in the departments of Petén, Alta Verapaz, and Izabal.

Pithecolobium vulcanorum Standl. & Steyerm., nom. nov. *Cojoba guatemalensis* Britt. & Rose, N. Amer. Fl. 23: 30. 1923, not *Pithecolobium guatemalense* Standl. 1929.

Pithecolobium Tuerckheimii (Britt. & Rose) Standl. & Steyerm., comb. nov. *Cojoba Tuerckheimii* Britt. & Rose, N. Amer. Fl. 23: 30. 1928.

RUTACEAE

Esenbeckia echinoidea Standl. & Steyerm., sp. nov.—Arbor 5–7-metralis, ramulis crassiusculis dense pilis albidis strigosis serius glabratis; folia 1-foliolata, petiolo gracili 1.5–6 cm. longo sparse strigoso; foliola late elliptica 9–28 cm. longa 4.5–15 cm. lata obtusa vel subrotundata, basi rotundata vel obtusa, supra glabra vel in statu juvenili sparse puberula, subtus paullo pallidiora, sparse pilosula vel in statu adulto fere omnino glabra, nervis venisque utrinque prominentibus vel prominulis et arcte reticulatis; capsula pedunculum crassum erectum 5–6 cm. longum terminans globosa vel depresso-globosa ca. 4 cm. lata et 2.5 cm. alta lignosa durissima

5-loculata ubique densissime echinis crassis acutiusculis duris hirtellis inaequalibus usque ad 1 cm. longis obtecta.—Guatemala: Dept. Chiquimula: Brushy rocky hillside, between Ramírez and Cumbre de Chiquimula, on the road between Chiquimula and Zacapa, alt. 400–600 meters, October 15, 1940, *Paul C. Standley* 74456 (type in Herb. Field Mus.). Dept. El Progreso: Barranquillo, 650 meters, *Steyermark* 46452. Dept. Zacapa: Between Agua Blanca and Cumbre de Chiquimula, 350–500 meters, *Standley* 74413. Dept. Guatemala: Without locality, *Ignacio Aguilar* 95. Near Amatitlán, 1,170 meters, in dry forest, *Standley* 61395.

From all species known on the mainland of North America this differs in its 1-foliolate (not simple) leaves and very densely echinate fruit. The fruit is very hard and woody, and so densely beset with hard woody spines that its normal 5-angulate form is obscured and it appears to be depressed-globose.

Casimiroa emarginata Standl. & Steyerm., sp. nov.—Arbor 15-metralis, ramulis crassis pallide lenticellatis, glabris vel sparse breviter pilosulis, gemmis axillaribus subglobosis densissime pilis albis pilosulis; folia longipetiolata 3-foliolata, petiolo gracili 5–8 cm. longo glabro, petiolulis 1–1.5 cm. longis; foliola membranacea elliptica vel late elliptica 7–10 cm. longa 4–7 cm. lata, apice rotundata et breviter emarginata vel apicem angustum emarginatum versus breviter angustata, basi inaequaliter rotundata vel obtusissima, glabra, supra intense viridia sublucida, subtus pallidiora; fructus ut videtur ovalis in statu sicco 5–5.5 cm. altus 3.5–4 cm. latus, apice leviter bilobus.—Guatemala: Dept. San Marcos: Growing near a house (planted?) at Tajumulco, northwestern slope of Volcán de Tajumulco, alt. 2,300–2,800 meters, February 28, 1940, *Julian A. Steyermark* 36931 (type in Herb. Field Mus.).

It is unsatisfactory to describe another species in a genus in which the species already known are suspected to be unstable, but this particular collection can not be associated readily with any of the species known heretofore. From *C. edulis* Llave & Lex. it differs in its 3-foliolate, very obtuse or rounded leaflets, and from *C. Sapota* Oerst., which is not known from Guatemala, in its rounded and broad-based leaflets. It is difficult to believe that the Guatemalan tree is only a variant of the latter species, and it scarcely can be associated with any of the extreme forms of *C. edulis*.

Galipea guatemalensis Standl. & Steyerm., sp. nov.—Frutex glaber, ramulis gracilibus irregularibus, internodiis ut videtur brevi-

bus; folia 1-foliolata, petiolo 8–25 mm. longo; foliola firme membranacea elliptica vel oblongo-elliptica 10–20 cm. longa 4.5–8.5 cm. lata abrupte cuspidato-acuminata, basi acuta, supra intense viridia lucida, subtus pallidiora, margine subundulato, nervis lateralibus utroque latere ca. 12 prominentibus, venis tenerrimis prominulis laxe reticulatis, lamina sat dense pellucido-punctata; pedunculi breves 1 cm. longi, fructu solum uno ut videtur maturante; capsulae carpella oblique oblonga sessilia 2 cm. longa 8 mm. lata, apicem anguste obtusum versus sensim angustata, basi rotundata, plus minusve rugosa, glabra; semina vix compressa fusco-ferruginea 1 cm. longa 4 mm. lata.—Guatemala: Dept. Izabal: Río Dulce, between Livingston and six miles up the river, on the north side of the river, near sea level, April 14, 1940, *Julian A. Steyermark* 39448 (type in Herb. Field Mus.).

In continental North America only one other species of the genus has been found. It is a shrub or tree of Darién, Panama, with 3-foliolate leaflets.

BURSERACEAE

Bursera permollis Standl. & Steyerm., sp. nov.—Arbuscula ca. 5-metralis, ramulis crassis pallidis dense breviter pilis patentibus pilosulis; folia longipetiolata 3-foliolata, petiolo 4–5 cm. longo molliter pilosulo; foliola 3–12 mm. longe petiolulata crasse membranacea ambitu variabilia orbicularia usque late elliptica, rotundo-rhombea vel obovato-orbicularia, 5–10 cm. longa 4–8.5 cm. lata, apice obtusa vel saepius rotundata at subito caudato-acuminata, basi late cuneata vel saepius rotundata vel subcordata, integra, supra sparse pilosa, subtus densius velutino-pilosa, nervis venisque elevatis laxe reticulatis; inflorescentiae e nodis defoliatis nascentes breves pauciflorae, ramis crassissimis pilosulis, floribus breviter crasse pedicellatis; fructus 3-valvis densiuscule puberulus vel glabratus 1 cm. longus obtusus; semen 1 albescens 8 mm. longum 6 mm. latum.—Guatemala: Dept. Jutiapa: In hedge, vicinity of Jutiapa, alt. 850 meters, October–November, 1940, *Paul C. Standley* 75245 (type in Herb. Field Mus.). Between Jutiapa and La Calera, southeast of Jutiapa, 850 meters, *Standley* 76039, 76100. Dept. Chiquimula: Along stream in cañada, Caracol Mountain north of Quezaltepeque, 1,200–1,400 meters, November, 1939, *Steyermark* 31407.

Local names "Jiote" and "Palo jiote de huis." From all other Central American species of *Bursera* this is distinguished at once by its 3-foliolate leaves with entire leaflets.

MELIACEAE

Guarea chirriactensis Standl. & Steyerm., sp. nov.—Arbor excelsa 18-metralis, ramulis crassis dense elevato-lenticellatis dense pilis brevissimis adpresso-pilosulis, serius glabratis; folia magna 6-foliolata longipetiolata, rhachi sicut petiolo sparse pilosula vel fere glabra, petiolulis crassis 5–8 mm. longis; foliola firme membranacea oblongo-ovata vel elliptico-oblonga 11–26 cm. longa 6–12 cm. lata, apice obtusa vel subrotundata et abrupte breviter apiculato-acuminata, basi obtusa vel subrotundata atque breviter ima basi acutata, utrinque glabrata vel subglabra, in axillis non barbata, costa supra subimpressa subtus valde elevata, nervis lateralibus gracilibus subtus elevatis; paniculae axillares sessiles repetite ramosae petiolum vix aequantes ca. 8–9 cm. longae, ramis crassis sparse pilosulis vel fere glabris, pedicellis glabratis subgracilibus 2–4 mm. longis; calyx latissime campanulatus 3.5 mm. latus 2 mm. altus sparse strigosus basi fere truncatus brevissime dentatus, dentibus latissime rotundatis; petala ca. 6 mm. longa late oblonga obtusissima extus dense strigosa; tubus staminalis 3 mm. longus vel paullo ultra inferne glaber, superne pubescens.—Guatemala: Dept. Alta Verapaz: Along route no. 5 between Chirriacté and Semococh, alt. 500–900 meters, May 10, 1942, *Julian A. Steyermark* 46355 (type in Herb. Field Mus.). South of Cubilgüitz, 300–400 meters, *Steyermark* 44541 (sterile).

The relationship of this Guatemalan tree is with *Guarea Chichon* C. DC. and *G. Trompillo* C. DC., both of which occur in Guatemala. They have much longer petals, a much larger, rather deeply and conspicuously dentate calyx, and usually narrow-based leaflets.

Trichilia privigna Standl. & Steyerm., sp. nov.—Arbor 8-metralis, ramulis gracilibus brunnescentibus vel fuscescentibus, novellis sparse puberulis cito glabratis subteretibus; folia inter minora pinnatim 3-foliolata, petiolo gracili 12–15 mm. longo glabrato, petiolulis 3–5 mm. longis; foliola elliptica usque obovato-oblonga vel obovato-elliptica 3–8.5 cm. longa 1.5–4 cm. lata, abrupte acuminata, acumine ipso acuto vel obtuso; basi cuneato-acuta vel acuta, firme membranacea, supra viridia tantum ad costam puberula, subtus brunnescentia glabra vel glabrata, foliolis lateralibus terminali vulgo multo minoribus; paniculae axillares longipedunculatae 5–8 cm. longae laxe multiflorae, ramis sparse puberulis vel fere glabris, floribus breviter pedicellatis viridescentibus; calyx glaber vel glabratus 1 mm. latus 0.8 mm. altus breviter dentatus, dentibus latis-

simis apiculato-subacutis; corolla in alabastro extus minutissime strigillosa 1.5 mm. longa; ovarium dense strigosum.—Guatemala: Dept. Petén: Steep shaly slopes along Río Santa Isabel, between mouth of Río Sebol and El Porvenir, alt. 100 meters, April 21, 1942, *Julian A. Steyermark* 45827 (type in Herb. Field Mus.).

In all characters this is so much like *T. breviflora* Blake & Standl. of the same general region that it may be only a form of that species. The texture of the leaves is similar, but in *T. breviflora* all the several collections now known have uniformly 1-foliolate leaves. Those of *T. privigna* are all 3-foliolate, and until intermediate forms are collected it may stand as a distinct species.

MALPIGHIACEAE

Mascagnia excelsa Standl. & Steyerm., sp. nov.—Arbor praeter inflorescentiam fere omnino glabra, ramis gracilibus subteretibus sparse lenticellatis ochraceis vel viridescentibus, internodiis elongatis; folia majuscula breviter petiolata crasse membranacea lucida, petiolo crasso 6–13 mm. longo facie superiore prope apicem glandulis 2 magnis valde elevatis onusto; lamina oblongo-lanceolata vel ovato-lanceolata 13–17 cm. longa 5–7.5 cm. lata longiacuminata, basi obtusa vel rotundata, supra laete viridis, nervis prominulis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus prominentibus; inflorescentia paniculata axillaris sessilis vel breviter pedunculata repetite ramosa multiflora foliis interdum longior, ramis rectis sparse brunneo-puberulis vel subtomentulosis, bracteis bracteolisque parvis deltoideis vel subulatis vix ad 2 mm. longis persistentibus, pedicellis plerumque 3–5 mm. longis superne valde incrassatis; sepala glabrata ca. 3 mm. longa, glandulis ovalibus vel suborbicularibus sepalis dimidio brevioribus; petala pallide lutea extus glabra longiunguiculata ca. 8 mm. longa, lamina suborbiculari inconspicue sinuato-dentata; samarae glabrae 2.5–3.5 cm. latae 2–2.5 cm. altae, alis lateralibus tenuibus ad marginem irregulariter undulatis, crista dorsali brevi integra.—Guatemala: Dept. Izabal: Río Dulce, between Livingston and six miles up the river, on the north side, at sea level, April 14, 1940, *Julian A. Steyermark* 39456 (type in Herb. Field Mus.). Río Dulce, two to four miles west of Livingston, on south side of the river, April 16, 1940, *Steyermark* 39452.

The nearest Central American relative of this species is *M. rivularis* Morton & Standl., found in Alta Verapaz and Izabal, Guatemala, but that is distinguished at once by the inconspicuous, not at all elevated glands at the apex of the petiole. Another related

species is *M. jamaicensis* Urban & Niedenzu, known only from Jamaica.

DICHAPETALACEAE

Dichapetalum bullatum Standl. & Steyerm., sp. nov.—Frutex erectus vel subscandens, ramulis ochraceis plus minusve lucidis, novellis dense pilis longis sordidis vel brunnescentibus hispidis; folia magna brevissime petiolata crasse membranacea, petiolo crasso 5–8 mm. longo vel paullo longiore dense hispido; lamina elliptica vel late elliptica, interdum oblongo-elliptica vulgo 17–28 cm. longa atque 11–18 cm. lata, subito acuta vel breviter acuminata, basi rotundata vel subcordata, supra sparse hispida vel in statu adulto fere glabra, nervis venisque conspicue impressis, superficie insigniter bullata, subtus dense pilis longiusculis rigidiusculis hirsuta vel hispida, costa nervisque elevatis, venis quoque elevatis et laxe reticulatis; inflorescentia parva multiflora terminalis vel pseudo-terminalis e basi ramosa (vel ex inflorescentiis pluribus composita), ramis primariis gracillimis 1–1.5 cm. longis dense hispidis, floribus ad apicem rami paucis longe pedicellatis, pedicellis fere filiformibus hispidulis; sepala anguste oblonga obtusa 3–3.5 mm. longa extus dense albido-tomentulosa et pilis longis albis rigidis adpressis hispida; petala sepalis aequilonga glabra alba apice biloba; filamenta gracilis glabra petalis longiora; ovarium dense albo-tomentosum.—Guatemala: Dept. Izabal: Along road between Puerto Barrios and Santo Tomás, about 1.5 miles southeast of Puerto Barrios, at sea level, December 7, 1941, *Julian A. Steyermark* 39874 (type in Herb. Field Mus.). Between Virginia and Lago de Izabal, Montaña del Mico, 50–500 meters, *Steyermark* 38803. Puerto Barrios, in wet thickets or *Manicaria* swamps, April–May, 1939, *Standley* 72813, 73053.

The petals are white when fresh but become blackish purple in drying. The species is a very distinct one, noteworthy for its abundant, hirsute or hispid pubescence and very large and broad, conspicuously bullate leaves. Two other members of the genus are found in Guatemala.

EUPHORBIACEAE

Euphorbia cuchumatanensis Standl. & Steyerm., sp. nov.—Subgenus *Chamaesyce*. Fruticulus erectus 20–30 cm. altus dense et saepe intricate ramosus, inferne frutescens, superne herbaceus, radice crassa lignosa, caulibus vetustioribus fuscescentibus teretibus, novellis pallidis sat dense pilis albis patentibus fere rectis

pilosis, internodiis foliis longioribus; folia parva brevissime petiolata opposita in sicco pallida crassiuscula oblique deltoideo-ovata vel ovato-ovalia, vix 1 mm. longe petiolata, 5–10 mm. longa 3.5–7 mm. lata apice obtusissima vel subrotundata, basi oblique subcordata vel rotundata, interdum subacutata, prope apicem inconspicue undulato-denticulata vel fere integra, utrinque sat dense pilis pallidis mollibus patentibus pilosula; involucra numerosa axillaria vel terminalia solitaria breviter pedunculata dense pilosula late turbinata basi acuta, appendicibus suborbicularibus .1 mm. longis et aequilatis glabris apice late rotundatis patentibus conspicuis; capsula 2 mm. lata vel paullo ultra pubescens; semina tumida brunnescenti-ochracea ad angulos subincrassata, faciebus fere laevibus.—Guatemala: Dept. Huehuetenango: Sierra de los Cuchumatanes, between Nentón and Las Palmas, alt. 800–1,200 meters, August 30, 1942, *Julian A. Steyermark* 51646 (type in Herb. Field Mus.).

A well-marked species, noteworthy for its dense erect habit, grayish, densely pubescent leaves, and the conspicuous white appendages of the involucre. It is not closely related to any other Central American species, and it does not agree with any of the numerous Mexican ones of which material has been available for comparison.

CELASTRACEAE

Microtropis ilicina Standl. & Steyerm., sp. nov.—Arbor glabra 9–12-metralis, ramulis purpureo-fuscis; folia petiolata coriacea integra, petiolo crasso pallido 7–10 mm. longo; lamina elliptica vel oblongo-elliptica, prope medium latissima, 6.5–9.5 cm. longa 2.5–4.5 cm. lata, acuta vel subacuminata, acumine ipso obtuso, basi acuta, utrinque lucida, supra in sicco lutescenti-viridis, costa nervisque prominulis, subtus pallidissima, costa elevata, nervis lateralibus utroque latere ca. 8 vix prominulis, venis inconspicuis laxe reticulatis; pedunculi 1–1.5 cm. longi crassi 1–2-dichotomi, cymis dense paucifloris 1–2 cm. latis, pedicellis crassis brevibus, bracteis latis fusco-marginatis; sepala exteriora pallida 1.5 mm. longa 2 mm. lata fusco-marginata, interiora majora, margine erosodenticulata; capsula anguste obovata apice acuta vel obtusa, prope basin angustata, 12–15 mm. longa.—Guatemala: Dept. Zacapa: Southern slopes of Volcán Gemelos, Sierra de las Minas, alt. 2,100–3,200 meters, January 26, 1942, *Julian A. Steyermark* 43284 (type in Herb. Field Mus.); also no. 43280, with the same data. Río Repollal, 2,100–2,400 meters, January, 1942, *Steyermark* 42545.

Dept. Huehuetenango: Cerro Pixpix, above San Ildefonso Ixtahuacán, 2,800 meters, *Steyermark* 50650, 50655.

From *M. occidentalis* Loes., a widespread species of Central America, this differs conspicuously in its much thicker leaves, which are very pale beneath and silvery in the fresh state, not green.

SAPINDACEAE

Serjania hispida Standl. & Steyerm., sp. nov.—Frutex scandens, caulibus gracilibus angulatis ubique dense pilis longis brunneis patentibus setoso-hispida, internodiis elongatis; stipulae fere filiformes 1 cm. longae vel ultra brunneo-hispidae; folia modica membranacea 3-foliolata 2–3 cm. longe petiolata, petiolo nudo dense hispido; foliola lateralia sessilia oblique ovata 6–7.5 cm. longa abrupte caudato-acuminata, basi oblique rotundata; foliola terminalia rhombeo-ovata vel rhombeo-elliptica ca. 13 cm. longa atque 6.5 cm. lata, caudato-acuminata, basi subabrupte cuneato-angustata; foliola omnia grosse remote crenato-dentata supra viridia dense hispida, subtus paullo pallidiora dense molliter hirsuta; inflorescentiae axillares ca. 7 cm. longe pedunculatae laxe multiflorae ca. 5 cm. longae et 3 cm. latae densissime pilis longis brunneis setoso-hispidae, floribus longe graciliter pedicellatis, bracteis fere filiformibus hirsutis ca. 5 mm. longis; sepala fere 4 mm. longa lata densissime brunneo-hispidula; petala alba glabra.—Guatemala: Dept. Alta Verapaz: Damp forested slopes, along road between San Cristóbal and Chixoy, alt. 1,200–1,300 meters, February 19, 1942, *Julian A. Steyermark* 43926 (type in Herb. Field Mus.).

So many species of *Serjania* have been described from Mexico and Central America that one would suppose a name could be found for every possible form. Apparently, however, the number of valid species is large, and there are many possible combinations of characters. Both this and the following species are noteworthy for their abundant stiff spreading pubescence. They are not satisfactorily referable to any of the species of the region represented in the herbarium by authentic material, nor do they appear to be particularly close to any of them. *S. hispida* is known only from flowering specimens.

Serjania phaseoloides Standl. & Steyerm., sp. nov.—Frutex scandens, caulibus gracilibus profunde sulcatis et angulatis, tantum ad angulos dense pilis rigidiusculis flavescentibus setoso-hirsutis; folia ca. 4 cm. longe petiolata 3-foliolata membranacea, petiolo

gracili nudo sparse hispidulo; foliola lateralia deltoideo-ovata vel ovata 7–8 cm. longa acuminata vel longiacuminata basi vulgo subcordata vel truncata ca. 1.5 cm. longe petiolulata; foliola terminalia late rhombeo-ovata 7–10 cm. longa 5.5–7 cm. lata acuminata, basi rotundata longe petiolulata; foliola omnia concoloria remote grosse undulato-dentata vel interdum basin versus sublobata, utrinque sparse pilosula vel glabrata; inflorescentiae longipedunculatae ca. 9 cm. longae et 3 cm. latae, laxe multiflorae hirtellae, floribus albis longe graciliter pedicellatis; sepala 3 mm. longa extus dense minute puberula vel subtomentulosa; fructus juvenilis (7 mm. tantum longus) late obovatus apice emarginatus sparse minutissime puberulus vel ut videtur cito glabratus, ad angulos ciliolatus.—Guatemala: Dept. Huehuetenango: Along Río Cuilco between Cuilco and San Juan, 2.5 miles west of Cuilco, alt. 1,200–1,300 meters, August 18, 1942, *Julian A. Steyermark* 50908 (type in Herb. Field Mus.).

Although this and the preceding species have rather similar pubescence on the stems, there is no reason to suppose that they are closely related. In *S. hispida* the pubescence is evenly distributed all over the stems, while in *S. phaseoloides* it is confined to the edges of the angles. In the former the lateral leaflets are sessile, in *S. phaseoloides* long-petiolulate.

TILIACEAE

Sloanea petenensis Standl. & Steyerm., sp. nov.—Ramuli graciles striati glabri vel glabrati; folia majuscula longipetiolata chartacea sublucida, petiolo gracili 2–4 cm. longo glabro; lamina anguste elliptico-oblonga 18–27 cm. longa 7.5–9 cm. lata anguste longiacuminata, basin obtusam versus paullo angustata, integra vel undulata, utrinque glabra, costa gracili elevata, nervis lateralibus utroque latere ca. 8 teneris utrinque prominentibus arcuatis angulo lato adscendentibus, venis utrinque prominulis et arcte reticulatis; capsulae (delapsae tantum visae) ovoideo-globosae ca. 3 cm. longae dense puberulae et sparse hispidulae, ubique dense echinis crassis rigidis persistentibus ca. 8 mm. longis puberulis dense munitae, valvis lignosis 4 mm. crassis intus glabris.—Guatemala: Dept. Petén: Forest between Finca Yalpemech, along Río San Diego, and San Diego on Río Cancuén, alt. 50–150 meters, March 25, 1942, *Julian A. Steyermark* 45309 (type in Herb. Field Mus.).

The material is most unsatisfactory for description, consisting of a leafy branch and some detached, very old fruits that probably were found on the ground. There is no doubt, however, that the

collection represents a species quite distinct from any of those reported previously from northern Central America.

MALVACEAE

Abutilon orientale Standl. & Steyerm., sp. nov.—Herba erecta usque 1 m. alta ut videtur perennis, gracilis, ramosa, ramis teretibus sparse minute stellato-puberulis et copiose pilis longis mollibus patentibus simplicibus pilosis, sat dense foliatis; folia inter minora longipetiolata, petiolis gracilibus 1.2–4 cm. longis ut caulibus indutis; lamina late cordato-ovata 4.5–7.5 cm. longa 2–6 cm. lata sensim subitove longiacuminata, basi profunde cordata, crenata, supra sparse pilis longis patentibus simplicibus pilosa, subtus vix pallidior sparse stellato-pilosa; stipulae anguste lineares 5–6 mm. longae virides; flores numerosi plerumque laxe cymosi et subpaniculati, axillares et terminales, longe graciliter pedicellati, pedicellis stellato-puberulis et pilis longis simplicibus pilosis; calyx late campanulatus 4 mm. longus dense stellato-pilosus, lobis tubo multo brevioribus latissime ovatis filiformi-cuspidatis; petala pallide lutea latissime obovata 5 mm. longa glabra; calyx in statu fructifero carpellis plus quam duplo brevior; fructus carpella 5 dense stellato-pubescentia apice abrupte rostrata, corpore 4–5 mm. longo, rostris brevibus oblique divergentibus vix 2 mm. longis; semina in quoque carpello 2.—Guatemala: Dept. Zacapa: In shaded quebrada, along road between Agua Blanca and Cumbre de Chiquimula, alt. 350–500 meters, October 15, 1940, *Paul C. Standley* 74420 (type in Herb. Field Mus.).

Perhaps related to *A. umbellatum* (L.) Sweet, which is the closest relative among the Central American species. In that, a much stouter plant of different appearance, the stems are stellate-hirsute and the calyx is much larger, usually almost or quite equaling the body of the carpels. The disposition of the inflorescence is conspicuously different in the two species.

Abutilon tridens Standl. & Steyerm., sp. nov.—Frutex vel arbuscula 2.5–4.5 m. alta ramosa, ramis crassiusculis dense molliter stellato-pilosis vel tomentosis, tomento inaequali et saepe quasi tuberculoso; stipulae persistentes 12–15 mm. longae lineares stellato-tomentosae basi paullo dilatatae; folia magna longipetiolata membranacea, petiolis 4–17 cm. longis, superioribus inferioribus multo brevioribus; lamina late cordato-ovata vel rotundato-cordata 12–24 cm. longa 8.5–18 cm. lata, acuminata vel subabrupte longiacuminata,

basi profunde anguste cordata, crenulata vel subintegra, supra viridis sparse stellato-pilosa vel fere glabra, subtus glauca dense stellato-pilosa et ad nervos venasque pilis longis simplicibus pilosa; pedunculi axillares ca. 16 cm. longi vulgo 3-flori, rarius 1-flori, pedicellis crassis erectis plerumque 4–6 cm. longis infra calycem articulatis; calyx 2.5–3 cm. longus densissime pilis brevibus stellatis brunneo-tomentosus profunde lobatus, lobis late ovatis acutis vel acuminatis intus dense tomentulosis; petala lata 4–5 cm. longa aurantiaca rubro-venosa glabra, apice latissime rotundata vel truncata, venis conspicuis elevatis; columna staminifera longe exserta corolla fere duplo longior; fructus carpella ca. 12 et 2.5–3 cm. alta dense stellato-hispida apice longirostrata, rostris ca. 5 mm. longis divaricatis; semina ca. 8.—Guatemala: Dept. El Progreso: Along small creek, hills between Finca Piamonte and the slopes southeast, Sierra de las Minas, alt. 2,400 meters, February 4, 1942, *Julian A. Steyermark* 43439 (type in Herb. Field Mus.). Dept. Zacapa: Upper reaches of Río Sitio Nuevo, Sierra de las Minas, 1,500–1,800 meters, January, 1942, *Steyermark* 43240. Upper slopes, Río Repollal, Sierra de las Minas, 2,100–2,400 meters, *Steyermark* 42532.

This is very closely related to *A. Pachecoanum*, which we described recently from the Occidente of Guatemala. That differs in its deep wine-red rather than orange-yellow petals, and in having the stamen tube of about the same length as the petals. There are also minor differences in vegetative characters.

Malvastrum guatemalense Standl. & Steyerm., sp. nov.—Herba vel frutex erectus 60 cm. altus ramosus, ramis teretibus brunneis dense stellato-hispidulis; stipulae filiformes 5–6 mm. longae; folia longipetiolata membranacea, petiolo gracili 1.5–4 cm. longo stellato-hispidulo; lamina rotundo-ovata usque elliptico-ovata vel late elliptica 4–7.5 cm. longa 2.5–6 cm. lata acuta, basi rotundata vel late obtusa, inaequaliter crenato-dentata, interdum subangulata, supra viridis pilis longis rigidiusculis pallidis simplicibus hispida, subtus paullo pallidior dense stellato-hispidula; inflorescentiae spicatae terminales multiflorae interruptae non densae, basi foliatae, floribus sessilibus vel breviter pedicellatis, bracteis linearibus inconspicuis deciduis, floribus interdum in axillis superioribus aggregatis; bracteolae lineares virides calycis lobis multo breviores; calyx 6 mm. longus vel in statu fructifero paullo longior densissime pilis simplicibus rigidiusculis hispidus et quoque stellato-hispidulus, ad medium vel profundius lobatus, lobis triangulari-ovatis acuminatis; petala pallide flava glabra 8–9 mm. longa; fructus carpella prope

apicem dense pubescentia, apice breviter bidentata, lateribus transverse rugulosis.—Guatemala: Dept. Santa Rosa: Wet thicket, near Cuilapa, alt. 900 meters, November 20–27, 1940, *Paul C. Standley* 78534 (type in Herb. Field Mus.); also no. 77661.

The relationship of this plant is obviously with *M. bicuspidatum* (Wats.) Rose, a Mexican species in which the leaves are stellate-pubescent on both surfaces, and the calyx is finely stellate-pubescent. It is irritating to have to describe as new an evidently weedy plant such as this, but it can scarcely be referred to *M. bicuspidatum*, and we find no other American species with close affinities.

MARCGRAVIACEAE

Ruyschia longistylis Standl. & Steyerm., sp. nov.—Frutex epiphyticus scandens omnino glaber, ramis crassis subteretibus ochraceis; folia breviter petiolata crasse coriacea, petiolo crasso ca. 5 mm. longo; lamina oblanceolato-oblonga 10–12 cm. longa 3–3.5 cm. lata supra medium latissima obtusa et mucronato-apiculata, basin obtusam vel subacutam versus sensim angustata, supra in sicco luteo-viridis, subtus paullo pallidior, nervis obsoletis; inflorescentia in statu fructifero 11 cm. longa subremote multiflora, rhachi fere 3 mm. crassa, pedicellis crassis 2.5–4 mm. longis patentibus vel leviter adscendentibus; bracteae ima basi calycis insertae semiglobosae vel obovatae 4 mm. longae obtusae basi angustatae et substipitatae, crassissimae; sepala valde inaequalia suborbicularia, interiora 3 mm. longa, apice rotundata, crassa, adpressa; fructus immaturus subglobosus 4 mm. longus, stylo crasso columnari 2.5 mm. longo.—Guatemala: Dept. Huehuetenango: Cafetal of Finca Soledad, 5 miles southeast of Barillas, Sierra de los Cuchumatanes, alt. 1,150 meters, July 26, 1942, *Julian A. Steyermark* 49545 (type in Herb. Field Mus.).

This is the only species of *Ruyschia* found thus far in northern Central America, but two or three others occur in southern Central America, and one has been described from Mexico. The present plant is noteworthy for the relatively much elongate style, that in other species being very short or obsolete.

Souroubea puberula Standl. & Steyerm., sp. nov.—Frutex epiphyticus scandens, praeter inflorescentiam omnino glaber, ramis crassis brunnescentibus vel ochraceis obtuse subangulatis; folia breviter petiolata subcoriacea, petiolo crasso 5–9 mm. longo; lamina oblanceolato-oblonga 8.5–12 cm. longa 3.5–4.8 cm. lata, apice obtusa vel obtusissima et mucronato-apiculata, supra medium

latissima, basin acutam vel attenuatam versus sensim angustata, nervis lateralibus tenerrimis obscuris; inflorescentia terminalis sessilis vel breviter pedunculata dense multiflora 7–8 cm. longa, omnibus partibus minute puberula, pedicellis vix ultra 2 mm. longis valde sursum curvis; bracteae ima basi calycis insertae pileiformes sessiles 3.5 mm. longae; sepala arcte imbricata suborbicularia 2.5 mm. longa apice rotundata.—Guatemala: Dept. Suchitepéquez: Upper forested slopes of barranco by Loma Grande, above Finca El Naranjo, Volcán de Santa Clara, alt. about 2,000 meters, June 2, 1942, *Julian A. Steyermark* 46862 (type in Herb. Field Mus.).

A close relative of this is the Guatemalan *S. micrantha* Standl. & Steyerm., but in that the pedicels are much longer and more slender, and the whole inflorescence is glabrous.

VIOLACEAE

Hybanthus sylvicola Standl. & Steyerm., sp. nov.—Frutex vel arbuscula 3–4.5 m. alta omnino glabra ramosa, ramis gracilibus lignosis subteretibus vel obtuse trigonis pallide viridibus; stipulae anguste ovatae vix ultra 1.5 mm. longae pallidae; folia breviter petiolata firme membranacea, petiolo 3–4 mm. longo; lamina oblongo-oblanceolata vel oblanceolata 8.5–10 cm. longa atque 2.5–3.5 cm. lata apice acuta vel breviter acuminata, basin versus sensim cuneato-attenuata, obsolete remoteque crenato-serrata vel subintegra, subtus pallidior; flores subfasciculati e gemmis axillaribus nascentes pauci, pedunculis fere filiformibus 5–8 mm. longis glaberrimis; sepala glabra inaequalia lanceolata vel late lanceolata ca. 2 mm. longa acuminata; petalum infimum 8 mm. longum, lamina rhombea longe unguiculata, ungue laminam fere aequante, petalis alteris unguem fere aequantibus; capsula ovoideo-globosa ca. 7 mm. alta et aequilata obtusissima vix rostrata glabra.—Guatemala: Dept. Alta Verapaz: Pila-pec, Finca Los Alpes, alt. 270 meters, March 20, 1939, *C. L. Wilson* 329 (type in Herb. Field Mus.).

Apparently a well-marked and somewhat isolated species, probably related to *H. elatus* (Turcz.) Morton. In that the capsules are much larger, the peduncles minutely but definitely puberulent, and the more acuminate leaves are very conspicuously and evenly serrulate almost throughout their length.

FLACOURTIACEAE

Xylosma celastrinum (HBK.) Standl. & Steyerm., comb. nov. *Flacourtia celastrina* HBK. Nov. Gen. & Sp. 7: 239. 1825. *Myroxylon*

celastrinum Kuntze, Rev. Gen. 1: 44. 1891.—The Gray Herbarium Card Index of New Species includes a card crediting the combination *Xylosma celastrinum* to HBK. ex Clover, Madroño 4: 94. 1937, but apparently the combination never has been properly published. Kuntze (loc. cit.) attributed the name *Xylosma celastrinum* incorrectly to the HBK. citation listed above, and Clover listed the same name in a list of plant names, without any reference to a name-bringing synonym.

Xylosma sessile Standl. & Steyerm., sp. nov.—Frutex glaber, ramis crassis ferrugineis vel brunneis lenticellis numerosis elevatis majusculis conspersis inermibus vel spinis crassis 1–2 cm. longis armatis, sat dense foliatis; folia modica brevissime petiolata vel fere sessilia coriacea, petiolo crasso vix ad 2 mm. longo vulgo breviore; lamina elliptico-oblonga vel lanceolato-oblonga 6.5–8.5 cm. longa 2–3 cm. lata vel paullo latior, acuta vel breviter acuminata, acumine ipso obtuso, basi cuneato-acuta, remote adpresso-serrata vel fere integra, supra viridis saepe lucida, nervis prominulis, venis obsoletis, subtus paullo pallidior, in sicco vulgo brunnescens, opaca, costa prominente, nervis lateralibus utroque latere ca. 6 prominulis, venis obsoletis vel obscuris; flores masculi in axillis dense fasciculati, pedicellis gracilibus 5–7 mm. longis glabris; sepala oblongo-ovata ca. 1.5 mm. longa obtusa glabra ciliata; stamina numerosa, filamentis crassiusculis glabris 2.5–3 mm. longis; bacca subglobosa 5–7 mm. diam. glabra; stylus brevissimus, stigmatibus brevibus ovatis.—Guatemala: Dept. Alta Verapaz: Cobán, January, 1907, *H. von Tuerckheim* II.1617 (type in Herb. Field Mus.). Region of Chelac, northeast of Carchá, April, 1939, *Standley* 70417, 70359, 70036. Dept. Izabal: Los Amates, February, 1908, *W. A. Kellerman* 7575.

Too many poor species already have been named in this genus, whose taxonomy is in a somewhat chaotic state and much in need of careful study. The specimens cited constitute a rather well-marked entity, apparently worthy of specific rank, and not associable with any of the published names of Central America and Mexico, so far as we are able to discover. The relationship is presumably with *X. flexuosum* (HBK.) Hemsl., a common species of Guatemala, but in that the veins always are elevated on both surfaces of the leaves and normally conspicuous and closely reticulate. The leaf shape of *X. sessile* is distinctive, unusually uniform in all the collections cited, and not matched by any of the numerous specimens of *X. flexuosum*.

Xylosma trinervium Standl. & Steyerm., sp. nov.—Frutex ramosus gracilis 1.5–3 m. altus, ramis tortuosis teretibus brunneis, novellis dense pilis albidis patentibus mollibus pilosulis; folia inter minora crasse membranacea breviter petiolata, petiolo gracili 3–4 mm. longo dense pilosulo; lamina elliptica vel lanceolato-elliptica prope mediam latissima 4–5.5 cm. longa 2–2.8 cm. lata acuta vel acuminata, basi cuneato-acuta vel subobtusa e basi manifeste trinervia, grosse crenata vel crenato-serrulata, utrinque densissime pilis patentibus griseis velutino-pilosa, nervis lateralibus supra basin laminae ca. 4-jugis angulo semirecto vel angustiore adscendentibus valde obliquis; flores dioeci, masculis breviter racemosis, racemis subterminalibus solitariis subsessilibus dense paucifloris ca. 1 cm. longis, pedicellis pilosulis; sepala ovalia vel rotundata viridia paullo ultra 1 mm. longa apice rotundata patentia longiciliata dorso parce pilosula vel glabra; stamina 7–8 sepalis paullo longiora glabra.—Guatemala: Dept. Huehuetenango: Along Río Cuilco, between Cuilco and San Juan, alt. 1,200–1,300 meters, August 18, 1942, *Julian A. Steyermark* 50876 (type in Herb. Field Mus.).

A well-marked species, noteworthy for the very dense, soft pubescence of the leaves, which are conspicuously 3-nerved, and for the racemose inflorescence.

LOASACEAE

Eucnide guatemalensis Standl. & Steyerm., sp. nov.—Herba ramosa, ramis crassis ubique dense viscido-hispidis; folia longi-petiolata herbacea, petiolo crasso 2.5–5.5 cm. longa densissime breviter viscido-hispido; lamina ambitu rotundata vel ovato-rotundata 5–9 cm. longa 4.5–8.5 cm. lata basi profunde anguste cordata, breviter 5–9-loba, lobis rotundatis undulatis vel undulato-dentatis, utrinque sat dense hispida; flores numerosi, pedunculis crassis 3–6 cm. longis dense viscido-hispidis; hypanthium obconicum vel late turbinatum 9 mm. longum 10–12 mm. apice latum dense pilis longis patentibus hispidum; sepala oblongo-linearia vel anguste lanceolata 3–3.5 cm. longa 5–7 mm. lata longiacuminata extus viscido-hispida; petala ca. 5.5 cm. longa et fere 2 cm. lata apice rotundata, albido-viridescentia, extus sparse pilis longis mollibus albis pilosa vel fere omnino glabra; stamina numerosissima petalis bene longiora ca. 7 cm. longa, antheris 1.5 mm. longis et aequilatis; capsula (perfecta non visa) ca. 1.5 cm. longa.—Guatemala: Dept. Huehuetenango: On vertical bluffs, northwest of Cuilco, two-thirds the way up

Cerro Chiquihui, above Carrizal, alt. about 2,000 meters, August 17, 1942, *Julian A. Steyermark* 50818 (type in Herb. Field Mus.).

One other species of *Eucnide* is known from Guatemala, the small-flowered *E. bartonioides* Zucc., which has been collected there but once, but is rather frequent in Mexico. In the size of its flowers this new species approaches *E. grandiflora* Rose of southern Mexico but that has still larger flowers, with petals fully 7 cm. long, and the petals are acute or subacute, rather than rounded at the apex.

LENTIBULARIACEAE

Pinguicula clivorum Standl. & Steyerm., sp. nov.—Folia numerosa rosulata ad terram adpressa obovato-rotundata pallide viridia in sicco tenuia 18–25 mm. longa 20–22 mm. lata, apice late rotundata, basi late cuneato-angustata, sessilia, glabra vel supra pilis paucis laxis conspersa, ciliata, obscure puncticulata; scapi gracillimi fere filiformes 5–7 cm. longi ut videtur adscendentes vel decumbentes breviter densiuscule pilosuli; calyx ca. 2.5 mm. longus sparse glanduloso-pilosulus, lobis valde inaequalibus ovalibus vel ovali-ovatis apice obtusissimis vel rotundatis, glanduloso-ciliolatis; corolla pallide lilacina vel albescens 12 mm. longa glabra, labio majore profunde trilobo, lobis rhombeis vel late obovatis apice rotundatis, labio minore duplo breviore profunde 2-lobo, calcare 6 mm. longo gracillimo apice subsaccato recto.—Guatemala: Dept. Huehuetenango: On high bluffs in upper reaches of a barranco above San Juan Ixcoy, Sierra de los Cuchumatanes, alt. 2,400 meters, August 4, 1942, *Julian A. Steyermark* 50061 (type in Herb. Field Mus.).

Local name "Flor de piedra." Leaves very pale green and thin, the margins inrolled and uprolled; corolla with a pale green spur, paler at the base and in the upper two lobes, the remaining parts whitish; a narrow green crest down the middle lobe. Two other species of *Pinguicula* are known from Central America, *P. moranensis* HBK. with very large, violet or deep purple corollas, and *P. crenatiloba* DC., with small white corollas. In flower characters this plant is somewhat intermediate between these two. The leaves are very large compared with those of *P. crenatiloba*, and similar in size to those of *P. moranensis*, which has very thick and fleshy leaves, quite unlike the very thin ones of this new species.

Utricularia adenantha Standl., sp. nov.— *U. adenantha* Standl. Field Mus. Bot. 12: 366. 1936, nomen. Subgenus *Calpidisca*. Herba

erecta terrestris; folia radicalia pauca subcarnosa obovata vel spathulata glabra; lamina 3–4 mm. longa apice rotundata, basi in petiolum aequilongum sensim angustata; scapi 10–15 cm. alti tenerrimi fere filiformes glabri, nudi vel infra flores bracteis minutis 1–2 remotis onusti, 2–4-flori, parte florifera geniculata; pedicelli filiformes 3–6 mm. longi; bracteae lanceolato-subulatae sessiles ca. 0.6 mm. longae subulato-acuminatae, bracteolis conformibus sed duplo brevioribus; calycis lobi ovati obtusi vel subacuti dense minuteque glanduloso-puberuli; flores parvi albi, corolla extus ubique minute glanduloso-pubescente, limbo paullo ultra 2 mm. lato; calcar 2 mm. longum extus glanduloso-pubescens apice subulatum, orem versus sensim dilatatum.—British Honduras: In swampy places, at sea level, growing in sandy soil, "very rare," September 2, in flower, *William A. Schipp* S-89 (type in Herb. Field Mus.).

From all the thirteen other species of *Utricularia* known from British Honduras and Guatemala this plant is distinguished at once by its pubescent flowers, which are the smallest produced by any local member of the genus.

MELASTOMACEAE

Miconia echinoidea Standl. & Steyerm., sp. nov.—Frutex 1.5 m. altus, ramis gracilibus teretibus densissime hirsuto-tomentosis, pilis patentibus setiformibus pallide lutescentibus apice dense breviter stellato-ramosis, petiolis paniculisque similiter indutis, ramis vetustioribus brunneis; petioli crassiusculi 1–4 cm. longi; lamina anguste ovata vel lanceolato-ovata 11–17 cm. longa 4–7.5 cm. lata longe anguste acuminata, basi rotundata vel obtusa, 5-plinervia, nervis interioribus bene supra basin laminae nascentibus, minute serrulata vel subintegra, supra densissime pilis brevibus lutescentibus subpatentibus setoso-hirsuta, subtus lutescenti-viridis dense pilis mollibus breviter stipitatis stellato-tomentosa; panicula parva erecta pedunculata vix ultra 4 cm. longa angusta, ramis brevibus oppositis crassis divaricatis, floribus 5-meris ad apices ramulorum dense aggregatis; hypanthium campanulatum 2.5 mm. longum basi obtusum, densissime setulis crassis pallide lutescentibus inferne sensim incrassatis apice breviter stellato-ramosis indutum; calycis tubus brevissime productus, sepalis 5 ovato-rotundatis extus setulosis, lobis exterioribus subulatis vel subulato-triangularibus 1.6 mm. longis suberectis sepalis multo longioribus; petala alba glabra ovali-obovata 3.5–4 mm. longa reflexa apice rotundata vel obtusissima; filamenta gracillima glabra 4 mm. longa; antherae inaequales subu-

latae, longiores 3 mm. longae, breviores 2 mm. longae; stylus crassiusculus 7 mm. longus prope basin sparse pilosulus, stigmate punctiformi.—Guatemala: Dept. Huehuetenango: Vicinity of Maxbal, about seventeen miles north of Barillas, Sierra de los Cuchumatanes, alt. 1,500 meters, July 15–16, 1942, *Julian A. Steyermark* 48831 (type in Herb. Field Mus.).

This and *M. tixixensis*, although quite distinct species, are evidently closely related, and of somewhat uncertain position. The calyx and hypanthium in both are very densely covered with short stout spreading yellowish hairs, which are very finely stellate-branched at the tips, so very densely so that the calyx resembles a small bur. We have not observed such an indument on the calyx (and hypanthium) in any other Central American species of *Miconia*. The much elongate outer calyx lobes found in both species would place the species in *Heterotrichum*, a genus of somewhat dubious standing, but all the species of *Heterotrichum* of which we have examined material are quite uniform in general appearance, and very unlike these two Guatemalan species, which in general aspect are much like many other *Miconia* species.

Miconia tixixensis Standl. & Steyerm., sp. nov.—Frutex 1.5–2.5 m. altus, ramis gracilibus densissime stellato-tomentosis, pilis pro parte parvis sessilibus, pro parte inferne incrassatis elongatis patentibus et apice breviter stellato-ramosis, tomento brunnescente, petiolis et inflorescentiis similiter indutis; folia subaequalia membranacea graciliter petiolata, petiolo 1–2 cm. longo; lamina lanceolata vel anguste lanceolata 8–12.5 cm. longa 2–3 cm. lata, longe anguste attenuato-acuminata basin acutam versus sensim angustata, supra viridis minute denseque scaberula, subtus glaucescens ubique dense minute pilis sessilibus stellato-puberula, 3–5-plinervia, nervis exterioribus obscuris et submarginalibus, interioribus alte supra basin laminae nascentibus; inflorescentia terminalis breviter pedunculata pauciflora 2.5 cm. longa, ramis paucis crassis patentibus, floribus 5-meris ad apices ramulorum aggregatis; hypanthium in statu fructifero subglobosum 5 mm. longum, densissime echinulato-setulosum, pilis pallidis rigidis inferne incrassatis apice breviter stellato-ramosis; lobi exteriores calycis subulati erecti 2.5 mm. longi densissime ut hypanthium induti.—Guatemala: Dept. Chiquimula: Cerro Tixixí, three to five miles north of Jocotán, in cloud forest, alt. 1,500 meters, November 10, 1939, *Julian A. Steyermark* 31585 (type in Herb. Field Mus.).

Both this and *M. echinoidea* are represented, unfortunately, only by rather scant and incomplete material, but both are clearly distinct from any other melastomes known from Guatemala and it is desirable to have names for them. Additional material, if obtainable, will show that they are exceptionally distinct species, although there is always the possibility that they have been described from South America. In few groups of tropical American plants having large numbers of species do the species show such extreme instances of discontinuous distribution as in the Melastomaceae, so that the possibility of identifying these two plants with South American species is a very real one.

COMPOSITAE

Eupatorium crocodilium Standl. & Steyerm., sp. nov.—Herba perennis erecta usque ad 60 cm. alta, caulibus solitariis vel pluribus simplicibus vel sparse ramosis subteretibus, superne sparse minute puberulis vel strigillosis, inferne fere glabris, multifoliatis; folia opposita saepe in axillis fasciculis foliorum reductorum comitata, graciliter petiolata, firme membranacea, petiolo 1 cm. longo vel breviore glabro; lamina rhombico-ovata vel oblongo-ovata 2–3 cm. longa 1–1.5 cm. lata, apicem obtusum versus angustata, basi acuta vel late cuneata, 3-nervia, remote obscureque crenata, utrinque glabra; inflorescentia parva fastigiato-trichotoma terminalis longi-pedunculata, capitulis cymoso-fastigiatis, cymulis 1–3 densis 1.5–2 cm. latis; capitula campanulata lilacina 5 mm. longa, pedicellis usque ad 4 mm. longis crassiusculis minute puberulis vel strigillosis; phyllaria ca. 3-seriata purpurascentia vel viridia, interioribus linearioblongis, apice rotundatis vel obtusissimis et minute apiculatis, minute puberula vel glabrata ciliolata, extimis brevissimis oblongis vel ovato-oblongis obtusis vel subacutis; flores ca. 15, corollis glabris 2.3 mm. longis; achaenia glabra nigra 4-angulata paullo ultra 1 mm. longa; pappi setae numerosae scaberulae albae 2.5 mm. longae.—Guatemala: Dept. Huehuetenango: Swampy places in large valley, Ciénaga de Lagartero, below Miramar, alt. 300 meters, August 29, 1942, *Julian A. Steyermark* 51498 (type in Herb. Field Mus.).

Here may belong also *Steyermark* 38478, collected near Cristina, Izabal. The plant is one of mediocre appearance for the genus, and is evidently related to the very common *E. pycnocephalum* Less., one of the most widespread species of Central America. From all its not very numerous forms that differs in having broad-based leaves with abundant pubescence.

Eupatorium cupressorum Standl. & Steyerm., sp. nov.—Frutex, ramis plus minusve recurvis teretibus striatis brunnescentibus sat dense villoso-tomentulosis; folia opposita breviter petiolata firme membranacea, petiolo usque ad 12 mm. longo dense breviter villoso; lamina ovata, oblongo-ovata vel lanceolato-oblonga, majores ca. 16 cm. longae atque 11 cm. latae, superiores angustiores, longissime attenuato-acuminata, basi breviter cordata vel late rotundata, 3-nervia, remote serrato-dentata vel repando-denticulata, supra sparse villosula vel puberula tactu asperula, venulis prominentibus et minute reticulatis, subtus paullo pallidior ad nervos venasque villosula, nervis venisque valde prominentibus, venulis prominentibus et arctissime reticulatis; inflorescentia thyrsoidea foliata ca. 22 cm. longa et 9 cm. lata, capitulis numerosis majusculis albis cymosis, cymulis paucicapitulatis racemosis, pedicellis crassis 4–8 mm. longis dense tomentulosis, bracteis bracteolisque plerumque linearibus vel subulatis saepe recurvis; capitula fere 1 cm. longa campanulata; phyllaria 2–3-seriata lanceolato-linearia, extima paullo breviora, omnia acuta sat dense pubescentia striata pallida; flores 40 vel ultra, corolla glabra filiformi-tubulosa involucrum duplo excedente; achaenia immatura 4-angulata pallida 2 mm. longa ad angulos hispidula, pappi setis rigidulis lutescenti-albis scaberulis corolla paullo brevioribus.—Guatemala: Dept. Totonicapán: Moist *Cupressus* forest, along road between San Francisco El Alto and Momostenango, alt. 2,220–3,000 meters, January 19, 1941, *Paul C. Standley* 84001 (type in Herb. Field Mus.).

A well-marked species of distinctive appearance, not closely related to any other with which we are familiar. It is noteworthy for the long narrow thyrsiform inflorescence and for the large short-petiolate leaves which have three conspicuous nerves that are continued to the apex of the blade.

Eupatorium jejunum Standl. & Steyerm., sp. nov.—Annua erecta gracillima 13–50 cm. alta simplex vel laxe pauciramosa, caule tereti pallide viridescente dense minute puberulo; folia parva tenuiter membranacea graciliter longipetiolata laete viridia, petiolo 1–2.5 mm. longo puberulo; lamina ovata, rhombico-ovata vel deltoideo-ovata 2.5–4 cm. longa 2–4 cm. lata acuta vel acuminata, basi truncata vel late rotundata, interdum subcordata, 3-nervia, grosse et aequaliter crenato-dentata, supra sparsissime pilis brevibus albidis patentibus villosula vel fere glabra, subtus ad nervos venasque plus minusve puberula; capitula lilacina parva numerosa cymosa, paniculam magnam laxissimam efformantia, graciliter longipedicellata, pedicel-

lis 1 cm. longis vel brevioribus puberulis lineari-bracteolatis; involucrum fere 3 mm. longum campanulatum; phyllaria aequalia vel subaequalia pallide viridia linearia acuta costulata glabra; flores ca. 40 phyllariis aequilongi; corollae glabrae 1.5 mm. longae; achaenia angusta nigra 1 mm. longa glabra; pappi setae albae paucae deciduae. —Guatemala: Dept. Jutiapa: Damp thicket, El Barrial, east of Jutiapa, alt. about 800 meters, October 30, 1940, *Paul C. Standley* 75788 (type in Herb. Field Mus.). Between Jutiapa and Las Tunas, 850–900 meters, *Standley* 76260. Vicinity of Jutiapa, 850 meters, *Standley* 75299. Dept. Chiquimula: Shaded slopes of cañada along Río Playa, near Concepción de las Minas, 1,200–1,700 meters, *Steyermark* 30869. Moist rocky slopes at base of waterfall, Socorro Mountain, near Concepción de las Minas, 1,200–1,790 meters, *Steyermark* 30892. Dept. Santa Rosa: Rinconcito, 1,200 meters, *Heyde & Lux* 4206. Near Cuilapa, 895 meters, *Standley* 77714.

A small and rather delicate plant, doubtless to be found only during the wetter months and withering as soon as the rains cease. Its closest relatives are not obvious. In general appearance it suggests *E. Sinclairii* Benth. (with which the Heyde and Lux collection was confused) and *E. microstemon* Cass., but in both those species the involucre is imbricate, while in this new species the phyllaries are all equal or nearly so in length.

Eupatorium macrum Standl. & Steyerm., sp. nov.—Herbacea vel fruticosa ramosa, ramis gracilibus pallidis teretibus dense breviterque pilosis; folia opposita tenuiter membranacea petiolata, petiolo gracillimo 1–2.5 cm. longo minute piloso; lamina triangulari-lanceolata vel anguste rhombico-lanceolata 3.5–8.5 cm. longa 1.5–3.5 cm. lata, longe anguste attenuato-acuminata, apice ipso obtuso, basi acuta vel attenuata et ad petiolum longe decurrens, inconspicue undulato-dentata vel fere omnino integra, bene supra basin laminae 3-plinervia, supra viridis sparse minute puberula, subtus paullo pallidior densiuscule crispo-pubescens; inflorescentia laxe paniculata foliata, internodiis valde elongatis, ramis dichotomis gracillimis, capitulis sessilibus paucis ad apices ramulorum pauci-aggregatis, fasciculis pro parte sessilibus, pro parte pedunculatis; capitula cylindracea alba 6 mm. longa 5-flora; phyllaria inaequalia ca. 3-seriata straminea vel pallide viridescentia, interiora lineari-oblonga apice rotundata vel obtusa et tenuia obscure costulata sublucida, exteriora pauca brevissima oblongo-ovata acuta glabra ciliolata; corollae glabrae phyllariis vix longiores; achaenia nigrescentia 1.5 mm. longa dense sursum scaberula, pappi setis albis scaberulis

corollam fere aequantibus.—Guatemala: Dept. Chiquimula: Rocky banks, base of Cerro Colorado, along Río Jocotán, near Jocotán, alt. 400 meters, November 9, 1939, *Julian A. Steyermark* 31534 (type in Herb. Field Mus.).—Honduras: San Pedro Sula, 180–450 meters, May, 1888, *C. Thieme* 5334b.

Apparently referable to the section *Cylindrocephala*, and of the relationship of *E. Lozanoanum* Robinson, although not closely related to that species, in which the glabrous leaves are rounded at the base. In *E. Lozanoanum* the axis of the inflorescence is continuous, while in *E. macrum* it is repeatedly dichotomous, with a small cluster of heads in each fork of the branches. The Honduras specimen apparently was seen by Dr. Robinson, who failed to recognize it as new, doubtless because the specimen is in poor condition.

Eupatorium mendax Standl. & Steyerm., sp. nov.—Herbacea vel suffruticosa subscandens, ramis gracillimis viridescentibus teretibus glabris, internodiis elongatis; folia graciliter longipetiolata membranacea opposita, petiolo 1.5–2.5 cm. longo glabro; lamina ovata vel elliptico-ovata 5–7 cm. longa 2–4 cm. lata longiacuminata vel caudato-acuminata, basi obtusa vel rotundata, 3-nervia, grosse remoteque serrato-dentata, infra medium vulgo integra, supra viridis glabra sublucida, subtus concolor ad nervos pilis paucis albis inconspicuis conspersa; inflorescentia thyrsoideo-paniculata 10 cm. longa foliata, bracteis bracteolisque brevibus linearibus vel fere subulatis, ramis dense laxeque lutescenti-tomentulosis, pedicellis gracillimis tomentulosis usque 5 mm. longis; capitula numerosa subdense congesta 7 mm. longa 5-flora viridescenti-alba; involucrum fere cylindraceum, phyllariis ca. 3-seriatis, interioribus oblongo-linearibus pallide viridescentibus obtusis costulatis glabris sublucidis, extimis brevibus ovato-oblongis obtusis ciliatis; corollae glabrae involucro breviores; achaenia brevia glabra, pappi setis rigidulis lutescenti-albis.—Guatemala: Dept. San Marcos: Slopes of barrancos along Río Vega, between San Rafael and the Mexican border, Volcán de Tacaná, alt. 2,500–3,000 meters, February 21, 1940, *Julian A. Steyermark* 36341 (type in Herb. Field Mus.).

Although the heads in this species are more or less cylindric and suggestive of the section *Cylindrocephala*, the relationship is evidently with *E. leucocephalum* Benth., a very common plant of the Guatemalan mountains. In that, however, the leaves are relatively much narrower and 3-plinerved and the involucres are almost pure white, rather than pale green.

Eupatorium mimicum Standl. & Steyerm., sp. nov.—Frutex gracilis erectus ramosus 1–2.5 m. altus, ramis gracilibus teretibus brunnescentibus vel viridescentibus dense pilis fulvidis vel purpurascentibus villosulis vel incurvo-puberulis; folia opposita graciliter petiolata membranacea, petiolo 1.5–4.5 cm. longo dense tomentuloso; lamina deltoidea, rhombico-deltoidea vel ovato-deltoidea 3.5–8 cm. longa 2–5 cm. lata acuminata vel longiacuminata, basi truncata vel late rotundata 3-nervia, grosse inaequaliter crenata vel crenato-dentata, supra viridis sparse pilis pallidis crassis plurilocularibus villosula, subtus fere concolor ad nervos tomentulosa, ad nervos venasque vulgo sparse villosula minute glanduloso-puncticulata; inflorescentiae terminales cymoso-paniculatae vel subthyrsoideae foliatae vix ultra 6 cm. longae, bracteis linearibus vel fere subulatis paucis, capitulis paucis vel numerosis laxe cymoso-aggregatis, pedicellis gracilibus elongatis dense puberulis vel tomentulosis; capitula albida vel viridi-lutescentia 7–8 mm. longa ca. 8-flora; involucrum anguste campanulatum floribus duplo brevius, phyllariis subaequalibus ca. 2-seriatis laxe imbricatis lanceolato-linearibus acutis vel longe acuminatis viridescentibus costulatis dense puberulis et minute glanduloso-puncticulatis; corolla tubulosa 4 mm. longa glabra pappo paullo brevior; achaenia nigra angusta 3 mm. longa dense minute hispidula; pappi setae lutescentes numerosae scaberulae.—Guatemala: Dept. Quezaltenango: Damp thicket, region of Las Nubes, south of San Martín Chile Verde, alt. about 2,250 meters, on white-sand mountain side, January 27, 1941, *Paul C. Standley* 85146 (type in Herb. Field Mus.); also no. 83662. Region of Boxantín, southeast of San Martín Chile Verde, 2,400 meters, *Standley* 83728. Damp dense forest, La Shuya, southwest of San Martín Chile Verde, 1,620 meters, *Standley* 67867. Slopes of Volcán de Zunil near Aguas Amargas, 2,450–2,850 meters, *Standley* 65439. Aguas Amargas, 2,450 meters, *Standley* 83329. Dept. San Marcos: Río Vega, Volcán de Tacaná, 2,500–3,000 meters, *Steyermark* 36360. Between Tajumulco and Tecutla, 1,800–2,500 meters, Volcán de Tajumulco, *Steyermark* 36815.

This is a close ally of *E. Coulteri* Robinson, also Guatemalan, but apparently this is a distinct species, and the two have different ranges inside Guatemala. *E. Coulteri* differs from the present plant in having smaller heads, and leaves puberulent or scaberulous on the upper surface or nearly glabrous, rather than sparsely villosulous.

Eupatorium plethadenium Standl. & Steyerm., sp. nov.—Frutex vel arbuscula 1–9-metralis, sat dense ramosa, ramis crassis

6-angulatis brunnescentibus vel fuscis, novellis sparse minute adpresso-tomentulosis vel fere omnino glabris; folia opposita in sicco subcoriacea petiolata, petiolo crasso 7–18 mm. longo glabro vel glabrato; lamina lanceolato-oblonga vel anguste elliptico-oblonga 7–13 cm. longa 3–5 cm. lata acuminata vel acuta, basi acuta vel acuminata, ima basi saepe late revoluta, penninervia, remote adpresso-serrata vel subintegra, in sicco saepe nigrescens, supra lucida glabra, nervis venisque non elevatis, subtus paullo pallidior glabra, saepius plus minusve nigro-puncticulata; inflorescentia dense multicapitata corymbosa convexa vel rotundata foliis vix longior 8–10 cm. lata fastigiato-ramosa, ramis pedicellisque ubique dense glanduloso-atomiferis vel minute puberulis, interdum glabratis, pedicellis crassiusculis vel gracilibus usque ad 7 mm. longis, bracteis bracteolisque conspicuis numerosis linearibus vel subulatis; capitula anguste campanulata 8–10 mm. longa purpureo-rosea ca. 8-flora; phyllaria ca. 6 mm. longa pauca subinaequalia, interiora linearioblonga apice rotundata purpurascentia subvernicosa et interdum obscure sparse puberula, extima 1–3 brevissima linearia vel lanceolato-oblonga, omnia laxe adpressa floribus plus quam duplo breviora; corollae tubulosae 7 mm. longae glabrae pappo paullo longiores; achaenia fere nigra 3.5 mm. longa glabra vel obscure minuteque puberula 4-angulata; pappi setae pallide purpurascentes 6 mm. longae inaequales leviter scaberulae.—Guatemala: Dept. Chimaltenango: In *Cupressus* forest, region of Santa Elena, Cerro de Tecpám, alt. 2,400–2,700 meters, December 26, 1938, *Paul C. Standley* 61100 (type in Herb. Field Mus.); same locality, *J. R. Johnston* 433, *Standley* 60935, 58671. Dept. Sololá: Volcán de Tolimán, 2,700–3,100 meters, *Steyermark* 47598. Dept. Huehuetenango: El Mirador, at summit of road leading from Huehuetenango to Sierra de los Cuchumatanes, 3,300 meters, *Standley* 81884. Above Macx, between Todos Santos and San Martín, 2,500–3,000 meters, *Steyermark* 51923. Above San Juan Ixcoy, Sierra de los Cuchumatanes, 2,400 meters, *Steyermark* 49983. Between Tojquiá and Caxín bluff, Sierra de los Cuchumatanes, 3,700 meters, *Steyermark* 50174. Between San Mateo Ixtatán and Santa Eulalia, 2,800–3,100 meters, *Steyermark* 49932.

In his work upon the genus *Eupatorium* Dr. Robinson perhaps would have treated this as only a variety of *E. ligustrinum* DC., but to us it appears to be a perfectly distinct local species, of rather abundant occurrence in the high mountains of central and northwestern Guatemala. It is uniformly distinct from all forms of *E. ligustrinum*, as that is represented so abundantly in Mexico and

Central America, in the greatly reduced pubescence of the inflorescences, which consists of dense, sessile or nearly sessile glands. The heads, too, are larger than in all or most forms of that species and the leaves, remarkably uniform in all our specimens, have a somewhat distinctive outline, dentation, and general appearance. It may be remarked here that none of the Central American collections of this group agree with the type specimen of *E. ligustrinum*, which has obtuse and practically or quite entire leaves. The Guatemalan plant was described as *E. semialatum* Benth., from Zunil, but it was reduced, apparently properly, to synonymy under *E. ligustrinum*.

Eupatorium Rojasianum Standl. & Steyerm., sp. nov.—Herba metralis vel paullo humilior perennis gracilis ramosa, ramis teretibus viridescentibus minutissime sparseque puberulis vel fere glabris striatis; folia opposita graciliter petiolata membranacea, petiolo 2–5.5 cm. longo glabro; lamina deltoideo-ovata 3.5–7 cm. longa 1.5–4.5 cm. lata, longe anguste attenuato-acuminata, basi subtruncata usque rotundo-cuneata, 3-nervia, arcte atque aequaliter serrato-dentata, supra viridis fere glabra, subtus paullo pallidior fere glabra vel ad nervos vix puberula; capitula alba pauca vel numerosa 5-flora graciliter pedicellata in cymas parvas ramulos laterales terminantes aggregata, cymulis laxe paniculatis, pedicellis sparse minute pilosulis; involucrum cylindraceum 5 mm. longum, phyllariis pallide viridescentibus ca. 3-seriatis, interioribus anguste oblongis erectis apice rotundatis et subscariosis glabris, extimis brevibus adpressis ovali-ovatis obtusis; corollae glabrae graciliter tubulosae 2.5 mm. longae, fauce vix dilatato; achaenia nigra 1.6 mm. longa glabra, pappi setis albis corollam aequantibus.—Guatemala: Dept. Quezaltenango: Damp thicket, near El Muro, below Santa María de Jesús, alt. about 1,200 meters, March 1, 1939, *Paul C. Standley* 67221 (type in Herb. Field Mus.).

This, also, is apparently referable to section *Cylindrocephala*, and related to *E. macrum*, described on a preceding page. That has 3-plinerved, very pubescent leaves rather than 3-nerved, almost glabrous ones. The species is named for Professor Ulises Rojas, Director of the Jardín Botánico of Guatemala.

Eupatorium salinum Standl. & Steyerm., sp. nov.—Frutex ramosus, ramis viridescentibus teretibus dense puberulis, ramulis fere rectangule divaricatis; folia inter minora longipetiolata membranacea opposita, petiolo 8–13 mm. longo dense puberulo vel breviter villosulo; lamina late triangulari-ovata 3–4.5 cm. longa

2–3.5 cm. lata apicem obtusum versus paullo angustata, basi fere truncata vel saepius late cuneata atque abrupte contracta, 3-nervia, grosse et saepius duplo crenata, utrinque dense pilis subadpressis griseo-pilosula vel villosula; inflorescentia laxe paniculata foliata, capitulis dense cymosulis paucis breviter pedicellatis, cymulis ramulos longos fere nudos laterales terminantibus, pedicellis densissime albido-villosulis; capitula campanulata lilacina 6 mm. longa ca. 50-flora; phyllaria subaequalia linearia, interiora cuspidato-acuminata, exteriora longiattenuata, viridescentia, dense puberula flores fere aequantia; corollae graciles anguste tubulosae fere glabrae sed ad basin dentium sparse pubescentes setis pappi subaequilongae; achaenia angusta nigra glabra 1.6 mm. longa, pappi setis lutescenti-albis.—Guatemala: Dept. Jutiapa: In shade of bushes in salt flat, dry plateau in chaparral between railroad station of Mita and town of Asunción Mita, alt. 650 meters, November 13, 1939, *Julian A. Steyermark* 31775 (type in Herb. Field Mus.).

In general appearance as well as in most of its detailed characters this plant is much like *E. azureum* DC. of northeastern Mexico.

Eupatorium saxorum Standl. & Steyerm., sp. nov.—Herba perennis erecta ca. 20 cm. alta, caulibus pluribus simplicibus vel sparse ramosis sparsissime breviter pilosulis vel fere glabris teretibus brunnescentibus vel purpurascentibus, inferne sat dense foliatis; folia parva opposita breviter petiolata crasse membranacea, petiolo crassiusculo 3–5 mm. longo sparse pubescente vel fere glabro; lamina ovata, deltoideo-ovata vel oblongo-ovata 1–2 cm. longa 6–15 mm. lata, apicem obtusum versus angustata, basi rotundata, 3-nervia, inconspicue crenato-serrata vel fere integra, supra viridis minute scaberula vel glabrata, subtus fere concolor ad nervos venasque strigosa vel fere glabra; capitula pauca ca. 6 mm. longa longe graciliter pedicellata ad apices caulium cymoso-fasciculata ca. 15-flora, inflorescentiis simplicibus vel e cymulis 3 longipedunculatis compositis, bracteis linearibus vel subulatis paucis; phyllaria pauca lanceolato-linearia viridia acuta vel acuminata 2–3-costulata glabra vel glabrata ciliolata floribus multo breviora; corollae graciles glabrae 3 mm. longae albae; achaenia nigrescentia 2 mm. longa ad angulos hispidula, pappi setis albidis vel pallide purpurascentibus corolla paullo brevioribus scaberulis.—Guatemala: Dept. San Marcos: Dry shaded rocky slopes, between Sibinal and summit of Volcán de Tacaná, alt. 2,500–4,000 meters, February 19, 1940, *Julian A. Steyermark* 36075 (type in Herb. Field Mus.). Dept. Huehuetenango: Open limestone *Juniperus* forest, Sierra de los Cuchumatanes,

along road beyond La Pradera, km. 32, about 3,300 meters, December 31, 1940, *Standley* 81808.

In general appearance this plant looks like a reduced form of *E. pycnocephalum* Less. but in that the involucre is several-seriate rather than having the phyllaries all subequal in length. Its affinities may be rather with *E. pazcuarense* HBK. of Mexico and Guatemala, but that is quite different in general appearance, being a large coarse plant with large leaves and very numerous heads.

Eupatorium vetularum Standl. & Steyerm., sp. nov.—Frutex 2–3-metralis ramosus, ramis crassis teretibus striatis brunneis, novellis dense pilis brunneis plurilocularibus simplicibus vel glanduliferis villoso-tomentosis; folia opposita in sicco subcoriacea petiolata, petiolo crasso 15–18 mm. longo brunneo-tomentoso; lamina elliptico-oblonga vel ovato-oblonga 8–11 cm. longa 3–4.5 cm. lata acuta, basi acuta et saepe obliqua, penninervia, grosse serrata vel dentata, supra viridis puberula vel sparse breviter villosula tactu asperula, nervis venisque inconspicuis, subtus pallidior ubique sparse villosula, ad costam stipitato-glandulosa, epunctata vel obscure et minutissime puncticulata; inflorescentia corymbosa dense multicapitata convexa interdum 13 cm. lata, ramis fastigiatis dense villosulis et glanduloso-pilosis, bracteis bracteolisque conspicuis linearibus vel subulatis, pedicellis brevibus vel elongatis rectis crassiusculis; capitula 10–12 mm. longa ca. 15-flora pallide rosea turbinato-campanulata; involucrum ca. 7 mm. longum floribus fere duplo brevius, phyllariis subaequalibus vel paullo inaequalibus lanceolato-linearibus subadpressis attenuato-acutis dense stipitato-glanduliferis et minute villosulis; corolla anguste tubulosa glabra 7 mm. longa pappo paullo vel vix longior; achaenia tenuia fusca 3 mm. longa dense glanduloso-atomifera; pappi setae longae pallide purpurascentes.—Guatemala: Dept. Totonicapán: Low damp thicket, common, region of Chiu Jolóm, mountains above Totonicapán, on the road to Desconsuelo, alt. 2,800–3,100 meters, January 23, 1941, *Paul C. Standley* 84404 (type in Herb. Field Mus.). Dept. Quezaltenango: Volcán de Santo Tomás, 2,500–3,700 meters, *Steyermark* 34823 (sterile but probably referable here). Dept. Chimaltenango: Dense *Cupressus* forest, Cerro de Tecpám, region of Santa Elena, 2,700 meters, *Standley* 58714.

The relationship of this is with *E. ligustrinum* DC., a common species of the Guatemalan mountains. In that the heads and involucres are very much shorter than in *E. vetularum* and the heads have less numerous flowers. The description of *E. Caeciliae* Robin-

son, based upon a plant from this same region, suggests the present plant but unless the description is very inaccurate, which is not likely to be the case, the two plants are quite different. *Eupatorium vetularum* is dedicated to the shepherdesses that one often sees along this stretch of the International Highway of Guatemala, a dreary region, cold, bleak, and swept by perpetual wind, fog, and driving rain. These old women probably are kindly and quite ordinary by nature but in appearance they are most forbidding as well as unbelievably picturesque. All day long they tend their sheep, seated on some cold wet bank, swathed in long black flowing garments of funereal aspect, each of the old crones wearing a wide-brimmed black hat with a narrow tall peaked crown, just like the conventional witches pictured in children's story books. They are one of a great number of improbable and almost unbelievable things to be seen in Guatemala, away from tourist-infested routes.

Eupatorium zunilanum Standl. & Steyerm., sp. nov.—Suffrutescens 60–90 cm. alta sparse laxeque ramosa, caulibus teretibus viridescentibus dense pilis longis patentibus albidis glanduliferis villosis, internodiis elongatis; folia opposita longissime petiolata membranacea, petiolo gracili 2.5–6.5 cm. longo glanduloso-villoso saepe lamina longiore; lamina deltoidea vel ovato-deltoidea 4–7.5 cm. longa 3–6 cm. lata acuta vel acuminata, basi truncata, 3-nervia, grosse et fere aequaliter crenata, supra sparse pilosa vel villosula, subtus fere concolor ubique sparse villosula; inflorescentia corymbiformis laxa sparse ramosa ca. 12 cm. alta et aequilata, ramis elongatis, capitulis longipedicellatis laxe cymosis, pedicellis plerumque 1–2 cm. longis sat dense glanduloso-pilosis; capitula pauca alba 10–12 mm. longa campanulata 30–35-flora; phyllaria subaequalia pallide viridescentia late linearia, acuta et superne scariosa dense glanduloso-pubescentia, interdum purpurascentia, costulata; corollae glabrae 5–6 mm. longae involucro vix longiores, fauce sensim dilatato; achaenia nigra crassiuscula minutissime puberula vel fere glabra, pappi setis albis paucis minute scaberulis deciduis.—Guatemala: Dept. Quezaltenango: Volcán de Zunil, alt. 2,500–3,800 meters, January 22, 1940, *Julian A. Steyermark* 34744 (type in Herb. Field Mus.). Northeastern slopes of barranco of Volcán de Zunil, in *Abies* forest, 3,000 meters, *Steyermark* 34905.

The plant is related perhaps to *E. prunellaefolium* HBK., a species found in Guatemala, but that differs conspicuously in habit, in the smaller heads in a more compact inflorescence, and in the smaller leaves on relatively short petioles.

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